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Intranasal Fentanyl for Sickle Cell Vaso-Occlusive Pain
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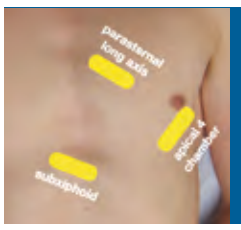

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SEPTEMBER 2023 Volume 42 Number 9 FACEBOOK/ACEPFAN INSTAGRAM/ACEPNATION X/ACEPNOW ACEPNOW.COM

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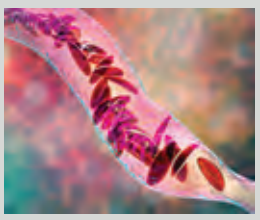

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For more clinical stories and practice trends, plus commentary and opinion pieces, go to:
www.acepnow.com

ACEP

Four Perfect Days in Philly

Scientific Assembly PHILADELPHIA, PA 2023

Exploring Philadelphia: A guide to making the most of your time during ACEP23

by ZACHARY RISLER, MD

Philadelphia offers rich history, but it is also a food lover's dream and a cultural cornucopia. While visiting for the ACEP Scientific Assembly, you will have the chance to attend some of the best educational sessions in emergency medicine in a city that offers unique, diverse experiences. This guide will help you take advantage of all the City of Brotherly Love has to offer.

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APP's Closing Raises Questions for Physicians, Hospital EDs, Patients

The closure has also raised questions about the model of large, distant corporations

by LARRY BERESFORD

When American Physician Partners (APP) of Brentwood, Tenn., one of the country's largest physician staffing firms, announced on July 17 through an email to its employees its intention to cease operations July 31, the chilling effects were felt across a workforce of 2,500 APP-employed physicians and advanced practice clinicians working at the 153 hospital emergency departments it managed in 18 states.

Would they be paid for work already performed? Would they continue to have jobs and essential malpractice tail coverage for claims filed after their policies expired? Would the entities rushing in to replace APP treat them fairly? The closure has also raised questions about the model of large, distant corporations—particularly those

CONTINUED *on page 8*

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PAGE 14

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NEWS FROM THE COLLEGE

UPDATES AND ALERTS FROM ACEP

You vs. Your Brain—A Session to Make You Think

Kick off your ACEP23 experience with an exciting opening session that could change the way you and your brain work together. Did you know our brains are wired to take short cuts that sometimes lead to cognitive distortions? Understanding how and why our biases work is an important first step in improving our decision-making, determining information we're willing to trust, and building relationships. Using a blend of neuroscience, behavioral economics and real-world examples, Dr. Helena Boschi, a world-renowned applied neuroscience psychologist, will empower you to train your brain, cut through the clutter and circumvent your bias. Learn more about her thought-provoking presentation at acep.org/acep23/keynote.

Fill Your Social Calendar at ACEP23

Beyond the 200 educational courses, the ACEP23 lineup also includes fun social events every night. If you'd like to grow your professional network while you're in Philly, these events could be a great opportunity to meet new people. Learn more at acep.org/acep23/social. Families are welcome at all social events except the Dine Around Dinners, which are adult only.

- Oct. 8—NFL Watch Party featuring the Dallas Cowboys versus. the San Francisco 49ers
- Oct. 9—Kickoff Party with a speakeasy theme at the Old Reading Terminal
- Oct. 10—Dine Around Dinners featuring the best of the Philly food scene
- Oct. 10—Game Night featuring a knowledge bowl and trivia battles
- Oct. 11—Movie Night kicking off with a Philly classic, *Rocky*

Private Equity, Group Structure, and Other Holiday Dinner Topics

At the ACEP23 closing session on Oct. 11, health care economist Dr. Lawton R. Burns, professor of management at the Wharton School, University of Pennsylvania, will pull back the curtain on the evolving world of private equity in health care and how it is trending. A panel of ACEP members will talk about challenges and bright spots in different practice settings, and we'll hear about the trajectory of our workforce. Attendees will be invited to ask questions from the floor. Pack your popcorn...this should be good! Get more details at acep.org/acep23/keynote.

Benefit Spotlight: Laurel Road

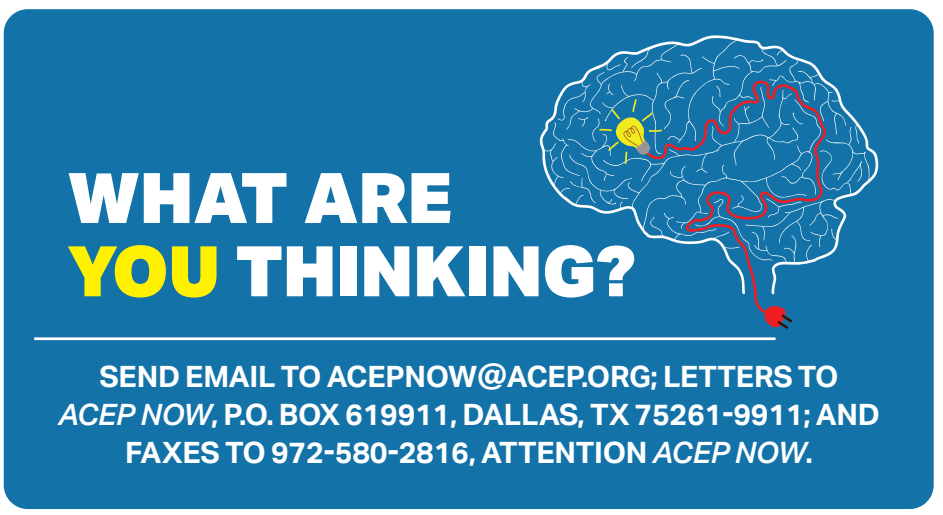
Student loan payments are back, and Laurel Road is here to help! Schedule a free consultation with a student loan specialist to understand all your repayment and forgiveness options and get a personalized plan. ACEP members also receive a discount on an annual membership. Learn more at acep.org/laurelroad.

Check Out This New Opioids Education Series from E-QUAL

ACEP's Emergency Quality Network (E-QUAL) is serving up some fresh educational content as part of its Opioid Initiative. Visit acep.org/equal-opioids-webinars to view these videos on demand:

- ***Equity in ED Care for Opioid Use Disorder*** presented by Dr. Elizabeth Samuels and Dr. Utsha Khatri
- ***The Naloxone Project*** presented by Dr. Don Stader
- ***Starting Buprenorphine in the Emergency Department to Help People Using Fentanyl*** presented by Dr. Andrew Herring
- ***EMS Public Health Initiative CA EMSBUP Pilot Results*** presented by Dr. Gene Hern
- ***Making Reducing Opioid Related Harms the Easy Thing to Do*** presented by Dr. Kit Delgado

More Resources: Need to make sure you meet the substance abuse disorder treatment requirements for your DEA license? ACEP has extensive offerings free for its members in the "Pain and Pain Management Track" of its Online Learning Center.



RESIDENCY SPOTLIGHT

METROHEALTH

Twitter: @MetroHealth_EM **Location:** Cleveland, Ohio **Number of residents:** 39 (13 per year)
Instagram: MetroHealth_EM **Year founded:** 1991 **Program length:** 3 years

What does your program offer that residents can't get anywhere else?

Our program pairs training at one of the busiest emergency departments in the country at a nationally recognized county, safety-net, Level I trauma and regional burn center (MetroHealth) with a world-renowned quaternary academic referral center (Cleveland Clinic). This unique combination exposes residents to an impressive variety of pathology and truly prepares them to practice in any environment after graduation. We also offer the opportunity for residents to practice as a solo flight physician during their PGY-3 while rotating with Metro LifeFlight—the largest hospital-based aeromedical program in the country.

These opportunities come with the added benefits and amenities of a large city (multiple professional sports teams, nationally renowned theater district, world renowned orchestra, and incredible restaurants and food scene) with low cost of living that allows residents to have financial flexibility during residency training. Our dedicated faculty have been and are currently involved in our specialty at the regional, state, and national levels (e.g., Ohio ACEP Presidents, Past ABEM President, and Past ACEP Research Forum Director).

JOHN QUEEN, MD

MetroHealth residents on retreat at Cuyahoga Valley National Park.

Our faculty serve on editorial boards and national committees. We have an Addiction Medicine fellowship, and the sponsoring institution (MetroHealth) has a fellowship in Clinical Informatics; these are in addition to our current, long-standing ultrasound and EMS fellowships. Because our program has been in existence for over 30 years, we have a large alumni network. Our graduates have no problem matching in their fellowship of choice or obtaining their desired job after residency.

What are some fun activities residents like to partake in or recently participated in?

Cleveland is a great midwestern city on a Great Lake! Besides the many beaches, Cleveland has an extensive Metroparks system where residents can get outside and bike, run/hike, paddle, fish, or simply enjoy the beautiful scenery. Our residents have many opportunities to decompress and socialize with each other.

Every Wednesday evening, residents meet for "Wellness Wednesday," which recently has incorporated trying new restaurants, kayaking, and paintballing. We have scheduled end of block get togethers attended by both faculty and residents. We foster camaraderie and peer mentorship through "residency families" and families are guaranteed an evening off together every few months to spend time together.

Once per year, we also guarantee a night off together for each class, as well as guys' night and girls' night. Lastly, at the end of the academic year, residents have 24 hours off for our annual resident retreat in the Cuyahoga Valley National Park.

How should potential applicants learn more about your program?

- https://gme.metrohealth.org/emergency-medicine
- https://my.clevelandclinic.org/departments/emergency/medical-professionals/residency-program
- **Email the program coordinator:** Katie Shergalis kshergalis@metrohealth.org
- **Email the chiefs:** Steffen Simerlink, ssimerlink@metrohealth.org; Kirsten Schulte, kschulte@metrohealth.org; Ryan Edelbrock, redelbrock@metrohealth.org; Sam Perry, sperry2@metrohealth.org

SEND YOUR THOUGHTS AND COMMENTS TO ACEPNOW@ACEP.ORG

THE BREAK ROOM

Re: 'Stop Prescribing Antibiotics for Diverticulitis'

Many of us do [prescribe antibiotics for diverticulitis]. There is evidence that it may be safer and just as effective. One pill instead of two may also increase compliance, and, metronidazole can be a tough pill to take for some people.

Here's an example of just one paper relating to this issue: https://www.acpjournals.org/doi/abs/10.7326/M20-6315?journalCode=aim

—Will Grad, MD

Re: 'It's Time to Abandon Fecal Occult Blood Testing in the Emergency Department'

I appreciate Dr. Radecki's thoughtful article. However, point-of-care testing looking for small amounts of occult GI blood are not really on point in emergency practice. EPs occasionally are asked to evaluate a chief complaint of black stools. As there are multiple causes of black stools, a point of care test that can reliably identify, or rule out, blood as the cause of the black stool is helpful and may help avoid some further testing. The real question then, is what's the sensitivity and specificity of point-of-care testing of black stools for blood.

—Joseph Wood, MD

Re: 'Deaf and Hard of Hearing Patients in the Emergency Department'

Thank you for this review on this important subject. One caveat is that not all deaf and hard of hearing sign; some speak English and rely on lip reading, which is eliminated with masks. Consider taking off your mask if you can or using clear masks.

See related op-ed I wrote about my wife's experiences in health care: https://www.emra.org/emresident/article/communication-in-em.

—Robert Allen, MD

EMERGENCY IMAGE QUIZ *with* VISUAL DX

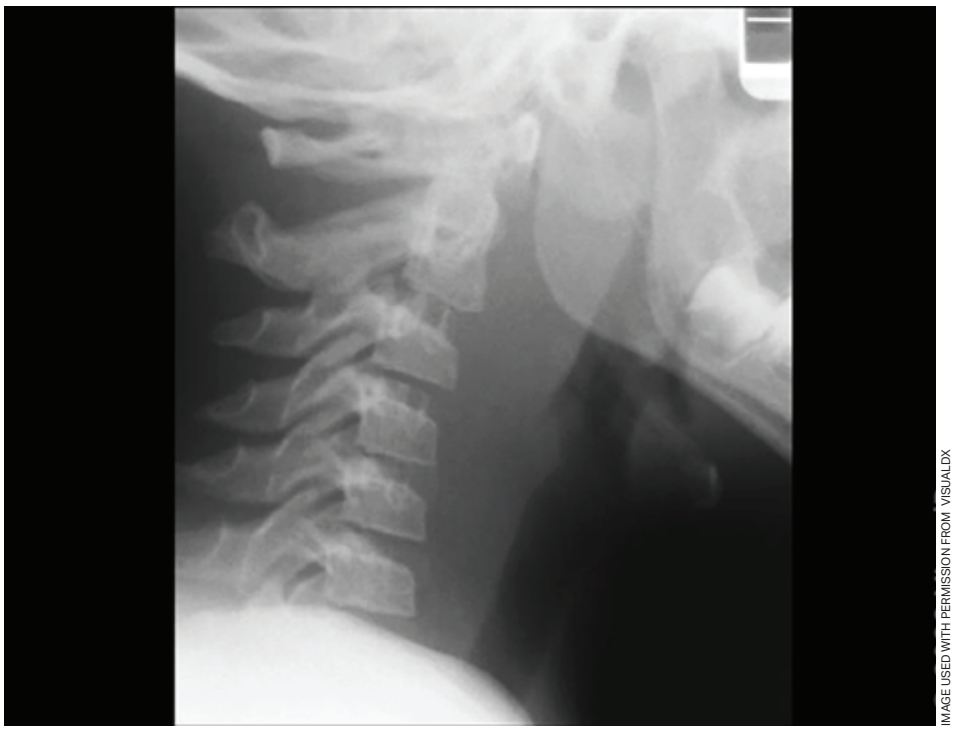


IMAGE USED WITH PERMISSION FROM VISUALDX

Question: A four-year-old girl presents with neck pain. A lateral neck radiograph is shown. What is the diagnosis?

a. Croup
b. Epiglottitis
c. Peritonsillar abscess
d. Retropharyngeal abscess

ANSWER *on page 20*

ACEP4U: State Advocacy Wins

KEY VICTORIES FOR EMERGENCY MEDICINE AT THE STATE LEVEL

Part of the ACEP mission is to expand and strengthen state advocacy. Chapter initiatives are making a positive impact on emergency physicians in their own communities with actions that often have implications for the entire specialty. Here, we highlight some of the key state efforts this year.

California Scores Historic Reimbursement Win

After hundreds of California ACEP members contacted Governor Newsom and state legislators, a long-overdue increase to Medi-Cal reimbursement rates was included in the state's budget.

Starting in 2025, $200 million will be devoted annually to increase reimbursement rates to emergency physicians. The increase will move reimbursement rates from between 55 and 60 percent of Medicare reimbursement to 80 percent.

Medi-Cal reimbursement rates have not increased in 20 years, until now. California ACEP advocacy led to emergency medicine being the only physician specialty specifically delineated in the budget bill.

"We are thrilled that these changes will improve access to care for Medi-Cal recipients," said Valerie Norton, MD, FACEP, president of California ACEP. "The long overdue increase should significantly impact emergency physicians who serve a high proportion of vulnerable patients—this is a stunning success."

There will be other increases to Medi-Cal, including an annual appropriation of $1.38 billion for primary-care rate increases, $1.15 billion for specialty-care rate increases, $500 million for hospital emergency-department reimbursement, at least $500 million for family planning and reproductive-health care, and $600 million for behavioral-health facilities, including some for new inpatient psychiatric beds.

Minnesota Calls for System Changes to Address Boarding Crisis

Minnesota ACEP is teaming with the Minnesota Medical Association to offer a series of recommendations to address the boarding crisis in their home state.

The recommendations, released in June, were outlined in a detailed statement that includes suggestions to address the many contributing factors, mitigate exacerbating circumstances, and develop solutions focused on patients with psychiatric diagnoses collaboratively with partners across the care continuum.

Task force co-chair Drew Zinkel, MD, senior medical director of emergency medicine at the University of Minnesota in Minneapolis, and past president of the Minnesota Chapter of the American College of Emergency Physicians: "The recommendations that our task force developed offer up a game plan on addressing this complex issue. It's a big lift but desperately needed."

Read the Minnesota ACEP and Minnesota Medical Association recommendations in its joint statement at acep.org/MNboarding.

Closing the Road to Alternative Certification in Puerto Rico

Senate Project 1134, touted as a way to alleviate the physician shortage in Puerto Rico, would have created an alternative pathway to a certification in emergency medicine, avoiding the training and certification standards supported by ACEP and the American Board of Emergency Medicine.

One proposal in the legislation was to create an alternative pathway for general practitioners to become certified as emergency

physicians based on 10 years working in an emergency department, and not based on completion of the training, residency, and board-certification programs required for emergency physicians. ACEP is a strong proponent of the pathway to board certification through training and residency with a certification issued by the American Board of Emergency Medicine (ABEM) or the American Osteopathic Board of Emergency Medicine (AOBEM).

Puerto Rico ACEP responded with a comprehensive advocacy campaign that included grass roots, coalition outreach, direct lobbying, and earned media to push against the legislation. Puerto Rico ACEP and national ACEP sent individual letters to the senate president and the presidents (chairs) of the senate and assembly health commissions (legislative committees) formally expressing opposition to the legislation. Cesar Andino-Colon, MD, FACEP, raised awareness of the problems in the legislation, participating in several public-affairs television programs and amplifying the reach of those appearances through social media.

ACEP reached out for national organizational support, including to the American Board of Medical Specialties (ABMS) among others. The outreach generated additional advocacy and letters of opposition. The ABMS provided additional support and guidance to ACEP's public-relations staff on hiring a contract lobbyist. ACEP was able to coordinate a written public statement by a newly formed coalition of 38 medical specialties and subspecialty organizations with the Puerto Rico College of Physician and Surgeons, and national organizations abroad sent statements that the chapter was able to make public strategically in coordination with the organizations.

The groundswell of opposition to the legislation led to the bill being pulled from consideration before a hearing could be held in the senate's health commission. Read more details at acep.org/puerto-rico-win.

Indiana Bill Requires Hospital EDs to Have Physician Onsite

Signed into law this May by Indiana Governor Eric Holcomb, SB 400 is a comprehensive health care bill that includes reforms to physician credentialing and prior authorization, among other items. The language proposed by Indiana ACEP and passed into law requires a hospital with an emergency department to have at least one physician on site and on duty who is responsible for the emergency department at all times.

Indiana ACEP was directly involved in the legislative process from the start. Emergency physician expertise and support was instrumental in developing the language and rallying support for the new law.

"We are gratified to see that the Hoosier state recognizes the importance of physician-led care and look forward to continuing this very important work of advocating for our specialty," said Indiana ACEP President Lindsay Zimmerman, MD, FACEP.

Dr. Zimmerman and Dan Elliott, MD, provided testimony to support the bill that can be viewed at acep.org/indiana-victory.

Trained Security Now Required in Virginia Emergency Departments

Virginia law now requires trained security in every emergency department and Virginia ACEP advocacy helped make that possible.

The new law requires off-duty police officers or security personnel in the emergency department around the clock. They will have training in conflict resolution and de-escalation, and have the ability to physically restrain unruly patients, family members, or other individuals in the ED. Part of the new law requires every Virginia emergency department to create a security assessment and risk plan.

Virginia ACEP supported this effort the entire way through. Violence prevention was a centerpiece of Virginia ACEP's EM Advocacy Day in January, when chapter members met with state legislators to share stories of workplace violence and help make sure this bill received strong bipartisan support.

Hospitals will undergo a security-risk assessment that includes trauma-level designation, overall volume, volume of psychiatric and forensic patients, incidents of violence against staff and level of injuries sustained from such violence, and prevalence of crime in the community.

Federal Judge Strikes Down Virginia Downcoding

Virginia ACEP was involved in asking the Virginia Department of Medical Assistance Services and Centers for Medicare and Medicaid Services to remove harmful "downcoding" provisions from the Virginia budget.

In April, a federal judge ruled the Virginia downcoding policy is not in line with federal law and the prudent layperson standard and should be removed—a win for emergency physicians.

Since 2020, Virginia's budget had automatically cut Medicaid reimbursements for emergency department visits that are on a list of 800 emergency conditions for Medicaid patients. The Department of Medical Assistance Services plans to pay for the downcodes that have occurred since the ruling.

Wisconsin Insurance Commissioner Sides with Emergency Physicians

Molina Healthcare of Wisconsin rolled out a policy earlier this year that denied payment for critical-care services when the patient was subsequently discharged from the hospital without being admitted. ACEP and Wisconsin ACEP submitted a complaint to the state insurance commissioner in March detailing concerns.

Our letter outlined the importance of critical-care services and the numerous instances when the initial encounter does not result in a patient being admitted. On May 18th, the insurance commissioner's office sided with ACEP and ordered Molina to stop denying critical-care claims for payment under their policy.

Contact Adam Krushinskie, ACEP state legislative affairs director, with your state advocacy success stories. Learn more about recent achievements and opportunities to get involved in state advocacy by visiting acep.org/stateadvocacy .

backed by private equity investors—employing and managing doctors who provide life-saving emergency medicine in local hospitals across the country.

Matthew Bombard, DO, FACEP, FAAEM, medical director for emergency medicine at Ascension Borgess-Pitt Hospital in Plainwell, Mich., was working the 4:30 p.m. to 1 a.m. shift on July 31 when the hospital's emergency coverage transitioned from APP to Vituity. "At midnight, I crossed over to my new medical group. And you know, we were one of the fortunate places, able to maintain 24-7 emergency medicine coverage without skipping a beat," he said.


Dr. Bombard

"But we were scrambling to get new docs signed up with our new group so we would not be in a situation where a different doc would have to come in at midnight and take over for a doc that did not sign. It was a real concern, as not all our docs signed on to our new group. That, fortunately, did not happen, and we had no lapses in care," he said. "But we were all so focused on getting the transition done and completing the onboarding that it was a distraction."

What Were the Issues?

It's fair to call what happened to APP multifactorial, said Diana Nordlund, DO, JD, FACEP, Compliance Officer and ED physician with Emergency Care Specialists, a Grand Rapids, Mich.,-based independent, equal-ownership, physician-led and -governed practice staffing more than 15 emergency departments. She is also a practicing attorney. "I think it's not just a reflection of one particular business' practices, since it's not the first situation we've seen this year of a large contract management group that staffs emergency departments making financial restructuring decisions because of budgetary issues," she said. A similar company, Envision Healthcare, filed for Chapter 11 bankruptcy in May. APP was facing inflationary pressures and declining physician reimbursement, with a significant debt burden amassed from its acquisitions of medical practices. Added to the mix were the effects of the COVID pandemic and unintended consequences from the 2022 *No Surprises Act* on physician revenues. APP had previously, unsuccessfully, tried to obtain refinancing and, more recently, a deal with the physician staffing firm SCP Health with a loan payment looming. Its email to employees cited the lack of liquidity to continue operations.


Dr. Nordlund

At least eight other medical staffing firms, including Vituity, U.S. Acute Care Solutions and TeamHealth, jumped into the void created by APP's liquidation to take on hospital emergency department contracts.

"It's a shame to read about what is happening to American Physician Partners," Rep. Mark Green (D-TN), MD, told *ACEP Now* in a prepared statement. Rep. Green founded the ED staffing company Align MD and later sold it to APP. "I am proud of my time leading Align MD, where we had one of the lowest turnover rates in the industry because of how we treated our providers."

Impact on ER Doctors

Nathan Whelham, MD, an attending physician working in the emergency departments of Ascension Borgess hospitals in Kalamazoo, Plainwell, and Dowagiac, Mich., told *ACEP Now* in an August 8 email that he still does not know if he will get paid for the work he performed in July, although at least he knows who is managing the EDs he and his colleagues are responsible for covering.

"Vituity, our new physicians group, said that it would provide us with a two-year loan to cover the lost wages as well as to pay for our tail coverage," he said. "We have heard absolutely nothing about that from APP, and our site directors have no idea as to what APP will pay in terms of payroll."

Dr. Whelham emphasized that in the two weeks following APP's July 17 announcement, "when we were working and doubtful as to being paid or covered in terms of legal protection, both the emergency physicians and advanced practice providers came to work and provided excellent care. We did not shrink back from our calling to serve our communities and those in need."

Dr. Bombard estimated that he worked 20 shifts in July and was owed more than $50,000 through incentives to work additional hours. "We were all relieved to find out that we would be paid on August 15, but without much warning or update (by APP)," he said. "If APP intended to pay us all along for July, it could have saved a lot of 'what ifs' and sleepless nights."

Dr. Bombard said that when he first heard he might not have tail coverage for the period leading up to July 31, "of course you start thinking about those cases where you may have questioned yourself. It certainly made me practice a little more conservatively in early August," he said. "When people are hurting like this, when they don't know if they're going to get paid or their insurance is not going to be covered, they have a lot of fear."

Knowing Their Rights

Christopher Kang, MD, FACEP, ACEP's President, said the College has offered support to its members during the painful transition. As of August 1, he said, "The lion's share of APP hospitals had implemented alternative arrangements. A good number said they would take over physicians' tail coverage and pay back salaries. But people are still anxious and frustrated," Dr. Kang said.

"ACEP's foremost duty is to help our members in a time of need. We want to be sure we educate our individual members so they know their rights," including who will have the right to collect the fees for physician services already rendered," he said. "We've sent multiple communications to members."

ACEP hosted a large-scale webinar on these questions, and is planning another. It developed and updated its online resources and opened a bulletin board for doctors impacted by the closure to report their circumstances, including a crowdsourcing spreadsheet listing the status at affected hospitals. Its member services include three free counseling sessions with its Wellness & Assistance Program and resources for helping with the formation of independent medical groups—even how to negotiate better agreements and how to read an employment contract.

"We're talking to legal and financial experts and are waiting to fully see the fallout," Dr. Kang said. Down the line, ACEP will be looking at how to make sure this kind of situation doesn't happen again.

"Emergency physicians should never be expected to work without pay, medical malpractice insurance or guaranteed tail coverage," Ashley Huff, MD, FACEP, FAEMS, an emergency physician in Clarksville, Tenn., said in an August 15 email to *ACEP Now*. "Many emergency physicians across the American Physician Partners footprint were left to advocate for themselves and their local group of physicians when APP closed."

Dr. Huff considers herself fortunate since her health care company, Community Health Systems, took over employment contracts for two weeks and paid the doctors for the month of July before inviting them to sign with TeamHealth. Given the recent history with APP and Envision, she thinks private equity staffing companies should set aside money or have written agreements specifically for tail coverage in the event that the company fails.

Spurring Introspection

For the field of emergency medicine, these developments are likely to spur some introspection, Dr. Nordlund said. "Certainly, there's been discussion of reinvigorating the independent, physician owned and operated group, and looking again at the hospital-employed model. As emergency physicians, to a significant degree, we're invested in responding to problems and delivering care to everyone who needs it, regardless of the ability to pay. We're open all the time; we take everybody."

She thinks it's a mistake to overlook how important that service is to America. "The emergency department truly is an integral part of our health care system." She also thinks the shockwave from the APP debacle will trigger a lot of attention about the instability of corporate management models and private equity in health care. "Are we going to see, now, more of these collapses? What does that mean to how we deliver care in our nation?"

Most importantly, how do these recent corporate failures impact patients? "That, ultimately, is the point of what we do," Dr. Nordlund said. "How do we deliver a model that provides stability for our physicians, since that also provides stability for our patients? Physicians who are not wondering if they're going to have a job next week or receive payment for the work they did last week can better focus on the business of delivering patient care."

LARRY BERESFORD is a freelance medical journalist based in Oakland, Calif., with a specialty in hospice and palliative care and thorough experience covering hospital medicine.

ACEP Supports Those Affected by APP Closure

The closure of American Physician Partners has disrupted thousands of emergency physicians' lives and careers. In the days after the closure, ACEP sent letters to approximates 130 hospitals nationwide, urging them to prioritize consideration of the emergency physicians and the care of their communities. With a quick crowdsourcing effort in collaboration with Ivy Clinicians, ACEP was able to map most of these hospitals' new contracts and used our influence to put pressure on the administrators to be accountable and consider many of ACEP's long-standing policies as they move forward. View the letter at acep.org/APPletter.

ACEP continues to support members through the situation by offering personal support and developing helpful resources for those affected. Keep reading for the new resources to help during uncertain times in your career. These can be found at acep.org/jobtransitionsupport.

More Career Transition Tools

ACEP's expanded career transition support services include:

- Free counseling sessions, access to legal and insurance partners, and a vetted job board
- A new contract toolkit with extensive, members-only FAQs about insurance, contracts and legal issues during career transitions
- A new member benefit with Resolve that offers 20% off contract review services

Group Ownership Education

Ready to start down the path of group ownership? We can help. ACEP hosted two members-only webinars in August that are now available on demand in the Online Learning Center at acep.org/OLC.

- Jumping in With Both Feet: Considerations for Starting Your Own Group
- Responding to an RFP: How to Win Your First (or Next) Contract

Take charge of your career today and sign up for the Independent EM Group Master Class. At acep.org/indyclass. Get involved with ACEP's Democratic Group Practice Section at acep.org/DGP or join the conversation on the ACEP EngagED Job Transition Support forum at acep.org/engaged.

Hidradenitis suppurativa

HS hides in the shadows

TOGETHER, WE CAN CHANGE THAT

Under-recognized and undiagnosed, patients with HS may suffer an average of up to 10 years before accurate diagnosis.[1-3] Meanwhile, HS may wreak havoc, causing irreversible scarring, debilitating pain, and emotional burden.[2-5] If your patient suffers from recurring or persistent abscesses at flexural sites, consider referring them to a dermatologist. This may be HS.

Learn more about recognizing HS and referral options at HS-Awareness.com

SHINE A LIGHT ON HS

NOVARTIS

Patient portrayal.

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How to Grow Your Professional Network at ACEP23

ACEP's Young Physicians Sections weighs in with what has worked for them

Networking and making new friends in the specialty is one of the best parts about ACEP events like the upcoming 2023 Scientific Assembly, but it's also a bit mysterious. How exactly does one "work the room" and start conversations with strangers? It can feel unnatural, right?

The leaders of ACEP's Young Physician Section have been successful growing their networks, and these are their best tips for how to use your time at ACEP23 to meet new people and connect with peers across the country:

"Contact your residency program or affiliated group to see if they're organizing networking dinners. These are common in the evenings and are a great way to touch base with some friendly, familiar faces while away from home. Sign up for at least one skills workshop. They are always high-quality, and this is a great way to polish your skills while working hands-on with peers from across the country. These are typically run by people you want to know."

—John Corker, MD, FACEP

"I have a separate contact card on my phone that is my professional business card. Makes it easier to share my contact information with new people I meet while giving me more control over what information is shared. I have my degrees on my name on that contact so it's easy for me to know which is my personal phone contact and which is my professional one."

—Scott Pasichow, MD, FACEP

"I've never been great at faking small talk, so my best advice is that when you're meeting people, find something they know about that you have genuine interest in—their hobby, where they live, if they've eaten at an interesting restaurant lately, etc. This will keep you engaged in the conversation without feeling like you're "networking" and will help you remember something about the person that you can tap into later."

—Jordan Warchol, MD, MPH, FACEP

"Introduce yourself and explain your interest for the field of emergency medicine. You never know when a networking opportunity turns into an advisor. If it's someone you want to keep in touch with, schedule a time to meet with them. Advisors can become your advocates! Having an advocate in your corner is more important than ever."

—Sara Andrabi, MD, FACEP| YPS Past Secretary

BONUS ONLINE CONTENT: We asked networking expert Angela Siler Fisher, MD, FACEP, her best tips. She'll tell you what to do before, during and after the conference to make sure you come home with new connections.

JPG PHOTOGRAPHY FOR PHLCVB

STEVE WEINIK

ABOVE: Take a stroll or bike ride on Kelly Drive.

RIGHT: Check out all the exciting and beautiful mural artwork around the city.

PHILLY | CONTINUED FROM PAGE 1

Day 1

The conference highlights kick off with the opening general session at 9 a.m., where we'll geek out about the science of how our own brains process information, learning how to notice and prevent the mental shortcuts that shortchange our decision making. If you can find time during the morning rush, make sure to visit Cafe Lift, a happening brunch spot with amazing homemade hot sauce. Grab lunch and go hang with the cool kids at Middle Child. This local favorite is known for its creative sandwich combinations. Personally, I recommend the Surfer or Shopsin Club. The Phoagie is also a "phavorite" for those who don't eat meat. Once you've had your fill, head to the Convention Center for EM:RAP Live! at 2:30 p.m. featuring emergency medicine's favorite educators. Once afternoon sessions are over, visit The Hayes for a drink and some upscale bar snacks before heading back to the Convention Center for the speakeasy-themed Kickoff Party, held in the old Reading Terminal.

Day 2

As the sun rises over the Schuylkill River, grab a coffee at one of Philly's great local shops. There are several must-visit spots to satisfy caffeine cravings. Bower boasts a great cup of coffee in a cool atmosphere containing a podcasting studio. You may be able to check out a live show before you walk over to the convention center. With many good lectures to choose from, I am looking forward to "Lytes Out! Electrolytes Gone Wrong" with Zachary Repanshek, MD. For the health policy-minded, check out "M-V-P! M-V-P! Are You Ready for MIPS Value Pathways in 2023?" with Michael A. Granovsky, MD, FACEP. After a stimulating morning, one of the best options for a mid-conference bite is the Reading Terminal Market, a bustling food hall that will leave any craving satisfied. From the savory roasted pork at DiNic's to the irresistible donuts at Beiler's, your taste buds will thank you. If you grab something to go, you'll have the chance to view some local street art before the afternoon sessions; Philadelphia is renowned for its vibrant murals. A self-guided tour designed by Mural Arts Philadelphia allows you to experience stunning canvases adorning a variety of buildings and showcasing the city's diverse artistic talent and culture. Visit muralarts.org/tours to download convenient maps.

Day 3

Jumpstart your third day in Philly with an invigorating visit to Cogito Coffee. Their selection of single-origin brews in a

relaxing ambiance are just what you need prior to strolling over to the conference to check out "Dermatology Jeopardy" with ACEP Now's Associate Editor Dr. Catherine A. Marco, MD, FACEP. Afterward, you'll be itching (pun intended) to get back outside. No day would be complete for emergency physicians without outdoor adventure opportunities. For those seeking some exercise, rent a bike or throw on your sneakers and head to Kelly Drive. This picturesque trail winds along the Schuylkill River and offers breathtaking views of the city skyline. As you make your way through the scenic route, make a stop at the Philadelphia Museum of Art to sprint up the art-museum steps, Rocky style, and enjoy a great view of the city. Farther out of the city, head into Fairmont Park and check out the Forbidden Drive Trail.

After such an adventurous day, head to East Passyunk Avenue, home to a plethora of amazing restaurants including River Twice, Ember and Ash, and Gabriella's. End your night by grabbing some ice cream at Milk Jawn or D'Emilio's Old World Ice Treats, and sit outside at the singing fountain for great people-watching.

Day 4

Today's morning joe comes from Elixir, a city favorite using locally sourced ingredients. Back at the conference with coffee in hand, check out "Fixing Faces Painlessly: Facial Anesthesia, Regional Blocks" with Lauren M. Westafer, DO, FACEP. For an afternoon lunch, the heart of Chinatown is just a couple of blocks' walk. Dim Sum Garden is a popular choice for authentic dim sum, while Nan Zhou Hand Drawn Noodles serves up freshly made noodles. While the food itself is delicious, the experience of watching chefs hand stretch the noodles will mesmerize even those of us who have seen everything in our line of work. Walk off the culinary masterpieces by strolling to the historic district. Here you can step into the past, where I encourage you to visit Independence Hall. You'll find other landmarks across the street such as the Liberty Bell, the African American Museum, Weitzman National Museum of American Jewish History, and the National Constitution Center. Grab some popcorn for the ACEP23 Closing Session, where EM leaders and a healthcare economist are going to dive into some of the hot-button issues affecting our specialty, including private equity and corporatization. Luckily, there's a cash bar and a space for conversation after this dicey session.

Philadelphia offers a multitude of activities, attractions, and culinary experiences to complement your attendance at ACEP Scientific Assembly. Whether you're exploring the city's vibrant street art, enjoying a bike ride along urban greenspaces, or indulging in the diverse food scene, Philadelphia has something for everyone.

DR. RISLER (@ZRISLER) is an emergency medicine physician at Nazareth Hospital in Philadelphia. He currently serves as the Director of Ultrasound for the department and a contributor to the Ultrasound G.E.L Podcast.

Is it Time to Take Another Look at the State of Emergency Care in the U.S.?

by RENEE BACHER

It's the 20th anniversary of the formation of the *Committee on the Future of Emergency Care in the United States Health System*. Intended to examine the state of emergency care and make recommendations for improvement, the committee has had an impact in some areas of emergency medicine, but not in others.

Is it time for a reassessment?

"Absolutely," said Arthur L. Kellerman, MD, MPH. "The magnitude of the challenges facing emergency care are greater than ever and our patients and nation need it."

Dr. Kellermann was a member of the original committee and played a key role in encouraging its formation. Years before, he'd started his career as medical director at Memphis' public hospital and Memphis Fire EMS. He moved to Atlanta to establish the Emory Center for Injury Control and later served as founding chair of Emory's Department of Emergency Medicine. In 2000, as he was completing his second term on ACEP's Board, he was elected to the IOM—now National Academy of Medicine—in 2000. Shortly afterwards, he was asked to co-chair a major IOM Committee.

Four years later, as that committee completed its work, Dr. Kellermann attended a dinner where he sat beside the then-president of the IOM, Harvey Fineberg, MD. Sensing an opportunity, he mentioned how influential the 1966 National Academy of Sciences report "Accidental Death and Disability: The Neglected Disease of Modern Society" was to establishing modern EMS in the United States.[1]

"I remarked that EM was not even a specialty then, and suggested it might be an opportune time for an updated IOM report that examined the achievements and challenges of emergency care in the U.S.," said Dr. Kellermann. "Dr. Fineberg was intrigued, and he and his staff subsequently put a proposal together. ACEP staff secured the support of the several federal agencies, and the project rolled forward from there."

Although the reports generated national attention, prompted executive branch action, and a congressional hearing, Dr. Kellermann regrets that they fell short of the Committee's intended goals.

Originally envisioned as a single report, several federal agencies stepped up to offer funding, Dr. Kellermann said, thanks to efforts by ACEP Government Affairs staff. This funding expanded the committee's work to include three reports: *Hospital Based Emergency Care - at the Breaking Point*; *Emergency Medical Services - at the Crossroads*; and *Emergency Care for Children - Growing Pains*," released in 2007.

"Emergency medicine research was and still is tremendously underfunded," said John E. Prescott, MD, another member of the committee. "We wanted to reach emergency physicians, nurses, and others working in trauma as well as those at Health and Human Services and the Centers for Disease Control."

Dr. Prescott, currently retired, was chief academic officer of the Association of American Medical Colleges from 2008–2021 where he said he worked with "every single school of medicine in the U.S.," as well as working closely on behalf of the association on projects with the White House and the Departments of Veterans Affairs, Defense, and Health and Human Services. Additionally, he served as dean of the West Virginia University (WVU) School of Medicine, president, and CEO of its faculty plan, founding chair of its Department of Emergency Medicine, and state EMS Medical Director in West Virginia.

"Working closely with the CDC, I came to know a lot about rural medicine and how to improve it," he said, guessing he may have been tapped for the committee through his work as principal investigator on more than $6.1 million in federal grants. "I was asked to participate and was thrilled to do it," he added. Prior to WVU, Dr. Prescott served as a military emergency physician at Brooke Army Medical Center, TX and Fort Bragg/Fort Liberty, NC.

"More emergency physicians started to rise in the ranks in the federal government at that time and were getting a reputation for making things happen," Dr. Prescott said. He added that it was prescient for the Institute of Medicine to say, *Let's look at this system and see what's going on. Is it working? What needs to change in the future?*

Results

According to a 2006 report brief, the committee identified the following issues for emergency care: [2]

- Serious overcrowding in the ED
- A fragmented emergency care system
- A shortage of on-call specialists
- A lack of disaster preparedness
- Shortcomings in pediatric emergency care

Their Recommendations Included:

- Improving hospital efficiency and patient flow using tools developed in engineering and operations research
- A coordinated, regionalized, accountable system that should be seamless from the patient's point of view
- Increased resources to help organize delivery of emergency care services, especially prehospital, and of disaster preparedness
- Paying attention to children's needs when it comes to standards and protocols for triage, transport, and disaster planning.

Dr. Kellermann was optimistic this work would put emergency medicine on the map for good, given the caliber of the committee, its multi-agency funding, the IOM's reputation, and subsequent congressional interest. He'd hoped to establish a lead federal agency and funded emergency care research center at NIH, as well as concerted national attention to solve ED crowding, boarding inpatients in hallways, and EMS diversion.

"Despite establishment of an Emergency Care Coordination Center at the HHS Office of the Assistant Secretary for Preparedness and Response, the creation of an NIH Office of Emergency Care Research, the appointment of highly capable Emergency Medicine leaders to head both programs, and the congressional hearing, the American health care system did not seize the opportunity to do better." Dr. Kellermann said. "To my dismay, boarding and diversion [of ambulances] not only persist; they are worse than ever. I had high hopes at the time, but they haven't been realized. It's time for another push."

Dr. Prescott said while significant changes have been made since the time of the report, it's time to take another good look at emergency medicine. "Emergency care in the United States is good, but it can certainly improve and be better," Dr. Prescott said. "It's going to take time, money, and commitment within hospitals, the specialty, and in the federal government."

Dr. Kellermann said he has profound respect for everyone involved in the delivery of emergency care but is astonished that the rest of the U.S. health care has turned its back on these challenges year after year. "All who step up to provide around-the-clock care deserve the public's and America's support."

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RENEE BACHER is a freelance medical writer located Baton Rouge, Louisiana.

ACEP to Host Stakeholder Summit to Address ED Boarding Crisis

A confluence of challenges is renewing the urgency to address one of emergency medicine's seemingly intractable issues: boarding in the emergency department. On September 27, ACEP will convene a national summit on emergency department boarding in its Washington, DC office.

Congressional representatives, federal and state government officials, regulatory leaders, health care stakeholder groups, and patient advocates are expected to attend the day-long discussion.

ACEP has sounded the alarm on the boarding crisis over the past year, collecting more than 140 heartbreaking stories straight from the frontlines and supporting legislative solutions to help vulnerable patients. ACEP sent a letter to the President in November 2022 asking the White House to host a summit that would bring together everyone affected to discuss collaborative solutions. Since then, the situation has only become more urgent. Action from the White House did not appear to be forthcoming, so ACEP moved forward with organizing and hosting the summit.

"The status quo is dangerous and unacceptable," said Laura Wooster, ACEP senior vice president, advocacy and practice affairs. "Many of the causes of ED boarding are out of the control of the individual hospital or ED team —collaborative systemwide solutions are the only way to address this crisis."

The goal of the summit is to bring together senior leaders from the private and public sector to identify tangible policy and real-world solutions for immediate and long-term implementation.

Read more about ACEP's boarding advocacy and view proposed solutions at acep.org/boarding.

Creative CAREERS

Exploring unique career options for emergency physicians

JOE SCOTT, MD, FACEP

Senior Director, Fleet Medical Operations at Carnival Corporation

Joe Scott, MD, FACEP, a longtime emergency physician in South Florida, was first introduced to cruise ship medicine when a friend asked if he wanted to lead some courses at a conference for cruise medicine physicians and nurses. After doing that for several years, he started getting asked to be an expert witness for cruise ship medicine cases. In late 2019, Carnival corporation Cheif Health Officer Grant Tarling, MD, MPH, wanted to build a hospital structure over the health care aspects of Carnival's nine brands, and he contacted Dr. Scott to ask if he'd be interested in serving as a fleet medical operations director.

When he started the job in February 2020, Dr. Scott couldn't predict that the pandemic would soon turn his new industry upside down. His hiring was part of the company's plan to gradually build a hospital structure that would unify the global Carnival fleet into one cohesive team. When COVID-19 hit, the 'gradual' aspect went right out the window. Instead, Dr. Scott leaned on his disaster medicine background.

"It was probably the best and worst timing ever," Dr. Scott said. "My skillset, at that time, was badly needed in an industry that had never done this before."

JOE SCOTT

In his role, Dr. Scott stays shoreside, hiring and overseeing the medical staff for the North American fleet of 60 ships. Cruise ship medical teams face some unique challenges. They do not have access to on-ship specialty services for consults or referrals, so much of those conversations are happening through 24/7 telemedicine hubs overseen by Dr. Scott and his team. Though they don't see some injuries on board very often—i.e., almost no firearm injuries—they do care for a wide range of other trauma in their well-equipped medical centers. Post-COVID, Dr. Scott said they are seeing a lot of acuity on board.

Because some emergencies happen in the middle of the ocean, the onsite emergency care teams provide both acute and ICU care until the patient can be transported from the ship. Dr. Scott says they often try to hire physicians with both acute and long-term care backgrounds because some patients can't be transferred for four to five days, depending on the location of the ships at the time of the emergency. Carnival's medical teams also manage the chronic care for the crew members, many of whom stay on the ship for up to nine months at a time. Dr. Scott's telemedicine team works hard to constantly monitor the status of its ships, trying to snuff out contagious outbreaks before they fully materialize.

Dr. Scott helped establish Carnival's first Health Operations Center in Miami, and it was so popular that they followed that up with additional health centers in the United Kingdom, Germany, and Australia. As the senior director in charge of all four centers, Dr. Scott said he and the other fleet directors are working to "coalesce [as a global team] so we can share best practices." They are working to break down the walls between the individual corporations under the Carnival umbrella so they can bring everyone together.

For Dr. Scott, the worldwide scope of his job is his favorite part. "You realize the commonality of emergency medicine across the world, and that's really gratifying," he explained.

2023–2024 EMERGENCY PHYSICIAN COMPENSATION REPORT

by BARB KATZ

Nearly two years since COVID disrupted the emergency medicine job market, things are finally looking up. The Fall 2023 market is up about 20 percent from last year but still lags behind the 2019 market by 32 percent. Of note, 32 percent of openings are in rural, low volume/acuity facilities.

In 2019, 63 percent of available jobs were with national contract groups, with 53 percent open to primary care physicians. This season NCGs represent 51 percent of the open jobs and only 40 percent are open to primary care boarded physicians. We are, however, seeing a rapid return of sign-on bonuses (as high as $150,000), stipends for grads before they start, loan forgiveness and other financial incentives showing that employers continue to have a hard time luring physicians to the less desirable geographic regions.

Due to dwindling compensation information, this year's report is a combination of position availability and compensation stats where available. **All compensation numbers represent salaries only—no bonuses, benefits, or front money have been included. These are all from currently available positions, and annual incomes are based on 1,560 clinical hours.**

BARBARA KATZ is president of The Katz Company EMC, a member of ACEP's Workforce and Career sections, and a frequent speaker and faculty at conferences and residency programs. She can be reached at katzco@cox.net.

The Southeast provides 32 percent of U.S. jobs; 69 percent with national contract groups and 60 percent open to PC boards with 49 percent in rural facilities.

ALABAMA: $410,000

TENNESSEE: $405,000; High: $507,000; jobs in all major cities

NORTH CAROLINA: $392,000; jobs in Charlotte and along the coast

FLORIDA: $385,000; lots of opportunity in major cities including Miami

LOUISIANA: $385,000

KENTUCKY: $380,000; strong opportunity in Louisville

VIRGINIA: $375,000;

ARKANSAS: $370,000; opportunity in Little Rock

SOUTH CAROLINA: $368,000

WEST VIRGINIA: $360,000

GEORGIA: $335,000

MISSISSIPPI: N/A

The West/Southwest region represents 26 percent of the open jobs, 46 percent with NCGs and 38 percent open to PC boarded docs, with 38 percent in rural facilities.

TEXAS: $452,000; High of $550,000; huge area of opportunity in San Antonio/Austin, less in Dallas and Houston, but still plentiful

ARIZONA: $437,000; good options in Phoenix and southern AZ

CALIFORNIA: $425,000; strong opportunity in major cities

OKLAHOMA: $390,000

NEVADA: $367,000; strong opportunity in the Las Vegas area & Lake Tahoe

NEW MEXICO: $325,000; jobs in Albuquerque

COLORADO: $315,000; a few jobs in Denver area

UTAH: Two openings, no financial information

HAWAII: One opening, no financial information

The 12 states of the Midwest have 19 percent of U.S. jobs; 52 percent with NCGs and 46 percent accepting PC boards, with 47 percent in rural facilities.

ILLINOIS: $400,000; High: $425,000; a few spots in the Chicago area

OHIO: $398,000; major "C" cities have strong opportunities

MINNESOTA: $395,000

WISCONSIN: $385,000

MISSOURI: $380,000; a few jobs in Kansas City and St. Louis

INDIANA: $370,000; good opportunity in Ft. Wayne

NEBRASKA: $365,000

SOUTH DAKOTA: $365,000; all Indian Health Service

KANSAS: $360,000; High: $400,000

NORTH DAKOTA: $348,000

MICHIGAN: $310,000

IOWA: 300,000

The Northeastern states have 11 percent of the jobs with 45 percent in NCGs and 33 percent open to PC Boards, with 23 percent in rural facilities.

MASSACHUSETTS: $378,000; High: $420,000; Boston has opportunity

NEW YORK: $350,000; High: $475,000; openings in the NYC area

CONNECTICUT: $340,000

NEW HAMPSHIRE: $330,000

MAINE: $300,000

RHODE ISLAND: Two openings, no financial information

VERMONT: One opening, no financial information

The small region of Mid Atlantic has only seven percent of the jobs, 55 percent with NCGs and 43 percent open to PC boarded physicians, with 10 percent in rural facilities.

MARYLAND: $370,000; several jobs in the Baltimore area

PENNSYLVANIA: $350,000; moderate opportunity in Pittsburgh and less in Philadelphia

NEW JERSEY: $325,000

DELAWARE: One opening, no financial information

Finally, the Pacific Northwest has only five percent of the nation's jobs, 36 percent at NCGs and 23 percent open to PC boarded physicians, with 36 percent in rural facilities.

WASHINGTON: $410,000; Hligh: $470,000

WYOMING: $376,000; High: $418,000

OREGON: $365,000; High: $430,000

MONTANA: $310,000; High: $348,000 with Indian Health Service

IDAHO: Two openings, no financial information

ALASKA: Two openings, no financial information

Figure 1. States and Cities Offering the Best Opportunity

TOP 10 STATES FOR OPPORTUNITY

1. Texas
2. Tennesse
3. New York
4. California
5. North Carolina
6. Ohio
7. Kentucky
8. Arizona
9. Illinois
10. Pennsylvania

TOP 10 CITIES FOR OPPORTUNITY

1. San Antonio, TX
2. Houston, TX
3. Los Angeles, CA
4. Pittsburgh, PA
5. Knoxville, TN
6. Dallas, TX
7. Tucson, AZ
8. Charlotte, NC
9. Nashville, TN
10. Miami/Ft. Lauderdale, FL

Dr. Mattingly summiting Mount Everest in May 2023.

AT THE SEVEN SUMMITS

When he climbed Everest in 2023, emergency physician Ben Mattingly realized his goal of summiting the highest peaks across the seven continents

by JORDAN GRANTHAM

Ben Mattingly, MD, tries to live by the adage, "One should be adventurous and daring, but not reckless." The challenge is that the line between adventurous and reckless is often paper-thin. Take, for example, his recent expedition to Nepal to summit Mount Everest. When he arrived at the base camp, he found out three rope-fixing sherpas had just been killed in the famously dangerous Khumbu Icefall. When he began his acclimatization climb, he and his guide kept getting stuck in long lines of fellow climbers, and his feet were on the verge of frostbite. Later, when another climber who was attached to his same fixed line slipped, Dr. Mattingly was also yanked off his feet and slammed into the ice, narrowly avoiding a broken leg. Risks are everywhere, and it's enough to make anyone second-guess the quest.

Stranded by the excessive crowds of fellow climbers waiting to summit, Dr. Mattingly was considering giving up and turning back toward the base camp. Suddenly, the weather cleared, and his sherpa convinced him to keep going. Resolute, he committed himself to finishing the climb. After six weeks in Nepal, he reached the peak of the highest mountain in the world. Dr. Mattingly checked off the last peak on his quest to climb the Seven Summits and entered an elite club—only about 500 people have achieved this feat since it was conceived in the 1950s.

Starting Small

For Dr. Mattingly, climbing the Seven Summits wasn't a lifelong goal. His first true adventure started when he and his wife, Jenni, had their first child when he was only 16 years old. This only fueled their desire to succeed and to "prove everyone wrong." He first cultivated his love of climbing at the Red River Gorge in his home state of Kentucky while in college. They have always managed to incorporate their young children and family into their adventures from the very beginning. By the time he was in medical school, he and Jenni were proud parents of three children, and Dr. Mattingly used to promise his friends, "One day I'm going to travel the whole world." Dr. Mattingly eventually made good on his promise, and now his children Jared, Adam, and Amber are old enough to join him on his global adventures.

It wasn't until he started his emergency medicine residency at Baystate Medical Center in Massachusetts that he learned all about winter activities and reignited his love for extreme sports. When he had the opportunity to take his family to New Zealand for a year, he found himself teaching for the first wilderness medicine program outside the United States.

"I always loved that stuff, but I didn't realize I could incorporate it into my professional life," Dr. Mattingly said. "That was just like heaven for me." Returning to Baystate Medical Center, he founded the program's wilderness medicine fellowship.

Wanting to give his fellows unique educational experiences, he started Wild Med Adventures to organize global wilderness medicine trips where attendees could earn CME. "I wanted [our fellows] to be able to go on any trip they could imagine and be able to teach and think about the organizational aspects of an expedition," Dr. Mattingly said. As his fellowship program and company gained momentum, they branched out into mountain biking, dive medicine, skiing, hunting, and more.

The First Six

It was with his first wilderness medicine fellow, Joseph Schneider, MD, that he reached the first of the Seven Summits, Aconcagua in Argentina, in January 2013. The owner of that expedition company was looking for someone to teach Carstensz Pyramid, the highest peak in Indonesia.

"I told him, 'I've never heard of Carstensz Pyramid, but I'll do it,'" Dr. Mattingly laughed. From there, one thing led to another. While summitting Carstensz in Indonesia in October 2015, he and his wife led a Wild Med Kilimanjaro Expedition and summited Kili in March 2016. On that same

PHOTOS BY BEN MATTINGLY

trip, they put together a trip to Russia climbing Mt. Elbrus, the highest peak in Europe, through contacts on his Indonesia expedition and summited in August of 2016. He also became close friends with Chris Imray, a vascular surgeon and leading frostbite expert, on that 2015 Indonesia climb, and they reconnected to summit Mt. Vinson in Antarctica together along with Ben's Dad, Bruce, in Jan. 2019.

"At that point I was like, well hell, I've done five of them," Dr. Mattingly remembered.

The only two peaks left to climb were Denali and Everest. At this point in his mountaineering career, Dr. Mattingly's confidence had grown, and he felt ready for new challenges. He decided he wanted to summit Denali on his own, without professional guides. His first expedition in 2017, was cut short after 30 days of being "crushed by the weather." Despite an unsuccessful summit, terrible weather, and descending the ridge in a huge snowstorm, Dr. Mattingly said it was "still one of [his] favorite trips." he remembered. Alaska kept calling, so Dr. Mattingly took his oldest son, his dad, for his second attempt at challenging mountain. They summited in June 2021.

Summiting Denali without a guide became his proudest accomplishment—and remains so even after he finished his Everest climb this year. "We carried all our own food, we packed all our own stuff, we did all our own navigation," Dr. Mattingly said. "We decided when to go, when not to go, all our own self-rescue stuff. When you're a team of four, you really have to work together."

Once he crossed Denali off his list, only Everest remained.

Highs and Lows

True to his "adventurous but not reckless" approach, he promised Jenni that he wouldn't travel to Nepal until their daughter graduated high school.

They ended up planning a group CME trip to Everest's base camp for April 2023, and their daughter was able to come along. Jenni and her fellow instructors trekked with Dr. Mattingly to base camp and led the team back to Kathmandu while Dr. Mattingly, his dad Bruce, and a sherpa set off at 1 a.m. for a preliminary climb to Loboche to warm up for his main trek by practicing on Loboche's ice, rock, and snow formations.

Their trip was fraught from the start. Bruce started with congestion that quickly turned into severe cough and fatigue, so he was unable to reach the summit. While he descended, Dr. Mattingly and the sherpa, Pemba, topped out and returned to meet Bruce at High Camp. They managed to eventually get back to Everest Base Camp, but his dad's condition was worsening quickly. Dr. Mattingly was really worried.

"At night, his oxygen saturation dropped to 49 percent, and he was blue with severe cough and congestion," Dr. Mattingly said. "We started antibiotics, steroids, and acetazolamide, and we had back-up oxygen available if things worsened. We contacted Global Rescue, who was amazing at coordinating a helicopter evacuation. However, due to bad weather, we had to spend one more night at base camp."

With his dad headed back to Kathmandu to recover from his illness, Dr. Mattingly was alone with his thoughts at the base camp. "Is it really worth it?" he asked himself. While he was fueled by his strong desire to climb the highest peak in the world, he was worried about the risks and questioning if he made a selfish decision by placing himself in harm's way. Normally surrounded by friends and family who were on the adventure with him, the solitary nature of his Everest climb gave him almost too much time to think.

He was saved from his swirling thoughts by a 2 a.m. start to his next acclimatization rotation, a hike to the dangerous Khumbu Icefall. Soon, he realized everything he'd heard about Everest was true: It's commercialized. It's overcrowded. After its pandemic pause, too many permits have been issued to too many people, many of whom are unprepared for the difficulty. Waiting in the line of 50 to ascend the first vertical ice fall, Dr. Mattingly's feet grew dangerously colder, inching toward frostbite. They pressed on, surviving a three-hour delay on the hike due to the excessive crowds. He was *this close* to turning back, but when sunshine poured over the mountain the next morning, Dr. Mattingly felt fresh energy to tackle the challenges ahead.

PHOTOS BY BEN MATTINGLY

Dr. Mattingly posing on Mount Everest.

Once he completed his acclimatization hike, the next step was to rest at the base camp and wait for a good weather window. The weather worsened, so Dr. Mattingly and Pemba descended another 12 miles down from the base camp for safer waiting. After three days of waiting, they ascended back to the base camp so they'd be ready for the next safe weather window. A few days later, they made a run for it, donning their headlamps and departing for Camp 1 at 2 a.m. to avoid the lines.

They grinded it out, progressing steadily from Camp 2 to Camp 3 while overcoming oxygen shortages and excessive waits. There is only one route with a fixed line that all climbers must share, and the lines were excruciatingly long. It took them so long to get to Camp 4 that they no longer had time to sleep before starting their climb to the final summit.

"This is where being a night owl with no circadian rhythm came in handy," joked Dr. Mattingly.

Again confronted with a clog of climbers trying to use the same fixed line, Pemba and Dr. Mattingly leaned into the "reckless" side of his philosophy. They took a calculated risk, knowing that standing still in those temperatures is unsafe, and the weather could get treacherous any time. They unclipped from the shared safety line and worked their way around eight to 10 climbers at a time, focusing on moving toward the summit as fast as they could.

"I just love those experiences on the mountain," Dr. Mattingly said. "You're not distracted by the noise of society. All you have to worry about is getting from point A to point B."

When they finally reached point A, a whopping 8,800 meters above sea level, they had the entire South Summit, Hillary Step, and Summit Ridge to themselves. Dr. Mattingly and Pemba took time to soak in the stunning vistas, snapping pictures and resting for 30 minutes before beginning the descent. "I'm only halfway," Dr. Mattingly told himself. "Be safe and don't rush."

Descending the mountain came with its own lows. Another climber slipped while attached to the same fixed line, suddenly pulling Dr. Mattingly off the surface and slamming him back into the hard ice with unexpected force. His knee was in severe pain, but Dr. Mattingly was almost certain that nothing was seriously injured. Still, the journey down became much more painful. (A later MRI showed a medial meniscus tear with bone marrow edema.)

"I couldn't help but imagine that if I had broken my left leg, I would have died on the mountain," he said.

Again stuck on the same rope as hundreds of other people, Dr. Mattingly and Pemba were tensely aware that one person could take out a whole group, and they endured a couple of close calls. The downward traffic was brought to a halt as they watched a deceased sherpa's body being returned down the mountain. It was a gut-twisting reminder that as long as they were on the glacier, they were not out of the woods.

As they inched downward, Pemba's phone fell out of his pocket, careening 2,000 feet off the side of the mountain and losing all their photos from the summit. He was distraught, but there was nothing they could do but carry on. Dr. Mattingly told Pemba not to worry about the photos because he had nothing to prove. "We enjoyed the summit together, and that is all that matters."

Days later, after safely traversing the final icefall, relief poured over them as they made it back to the base camp. As Dr. Mattingly called Jenni to let her know he was safe, he celebrated by pouring himself a very cold glass of the Buffalo Trace bourbon he brought from his home state.

The Next Adventure

When you've reached the Seven Summits, what do you do next? True to his nature, Dr. Mattingly is not sitting still. To quench his adventurous side, he's halfway through his pilot license and wants to learn about sailing and dive medicine.

He has a big heart for helping others, so he's reflecting on how the next third of his career can focus on giving back. He wants to continue to grow his Wild Med Adventures wellness retreats so he can help other physicians and health care clinicians find the same peace he gets from being outdoors. He also wants to use his personal experience as a teen dad to help show at-risk youth that they can accomplish more than they may think.

"I could spend two hours talking to these kids. Most of them just need guidance and confidence and somebody to tell them that they can actually do something with their life, you know?" Dr. Mattingly said. "You could take these kids to Kilimanjaro and show them something they've never seen ... You can combat like all kinds of things by giving them some other meaning."

For Dr. Mattingly, the Seven Summits feels like the start of more to come. He's always been goal-oriented, and his overarching goal is to use his experiences as a father, husband, emergency physician, business owner and extreme adventurer to make a positive impact on others.

"I think you can change people's lives," he said. "I really do believe that."

JORDAN GRANTHAM is senior content manager at ACEP.

CLIMBING THE SUMMITS

JANUARY 2013	OCTOBER 2015	MARCH 2016 & FEBRUARY 2023	AUGUST 2016	JANUARY 2019	JUNE 2021	MAY 2023
ACONCAGUA	**CARSTENSZ PYRAMID**	**KILIMANJARO**	**MOUNT ELBRUS**	**MOUNT VINSON**	**DENALI**	**EVEREST**

DOGMA FEELS RIGHT UNTIL YOU STEP IN IT

SKEPTICS' GUIDE TO EMERGENCY MEDICINE

DR. MILNE is chief of emergency medicine and chief of staff at South Huron Hospital, Ontario, Canada. He is on the Best Evidence in Emergency Medicine faculty and is creator of the knowledge translation project the Skeptics' Guide to Emergency Medicine (www.TheSGEM.com).

Intranasal Fentanyl for Sickle Cell Vaso-Occlusive Pain

Timely and effective pain control is important for all patients, including children

by KEN MILNE, MD

Case

A 15-year-old female with sickle cell disease (SCD) presents to your emergency department (ED) with a vaso-occlusive pain episode (VOE) of her legs and back. She has a history of similar episodes. There are no other concerning aspects to her examination. Routine bloodwork was ordered in triage. While waiting for results you wonder if a dose of intranasal (IN) fentanyl could address her pain until intravenous (IV) access can be obtained?

Background

Timely and effective pain control is important for all patients including children. The Pediatric Pain Management Standard[1] for children was published this year to provide guidance to health organizations on how to deliver equitable and quality pain management across hospital settings.

Children with SCD often present to the ED in pain due to VOE. The National Heart, Lung, and Blood Institute released an expert panel report in 2014 with evidence-based guidelines for management of SCD recommending timely administration of parenteral opioids for VOE.[2] However, multiple barriers including ED crowding, boarding, and staffing shortages contribute to delays in care.

IN fentanyl has been safely used to treat pain in pediatric patients. It offers a way to deliver analgesia without IV access.[3,4]

Clinical Question

In children with SCD with VOE, how does IN fentanyl impact disposition?

Reference

1. Rees CA et al. Intranasal fentanyl and discharge from the emergency department among children with sickle cell disease and vaso-occlusive pain: A multicenter pediatric emergency medicine perspective. *Am J Hematol.* 2023;98(4):620-27

Population

Children aged three to 21 years, with SCD (Hemoglobin SS disease or hemoglobin S-beta thalassemia) who presented to the ED with VOE

- **Excluded:** Children with upper respiratory infection, concern for stroke, altered mental status, or head injury, acute chest
- **Intervention:** IN fentanyl (50 mcg/mL) delivered via atomizer with maximum of 100 mcg
- **Comparison:** No IN fentanyl
- **Outcomes:**
  - » **Primary Outcome:** Discharge home from the ED
  - » **Secondary Outcomes:** Dose and route of opioids administered, time of opioid administration, non-steroidal anti-inflammatory drug administration, use of IV fluid, time of ED or triage arrival to first opioid administration, time of day patient presented to the ED
  - » **Type of Study:** Secondary analysis of a cross-sectional study from 20 academic pediatric EDs in the United States and Canada.

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BRINGING YOU CANADA'S BRIGHTEST MINDS IN EM

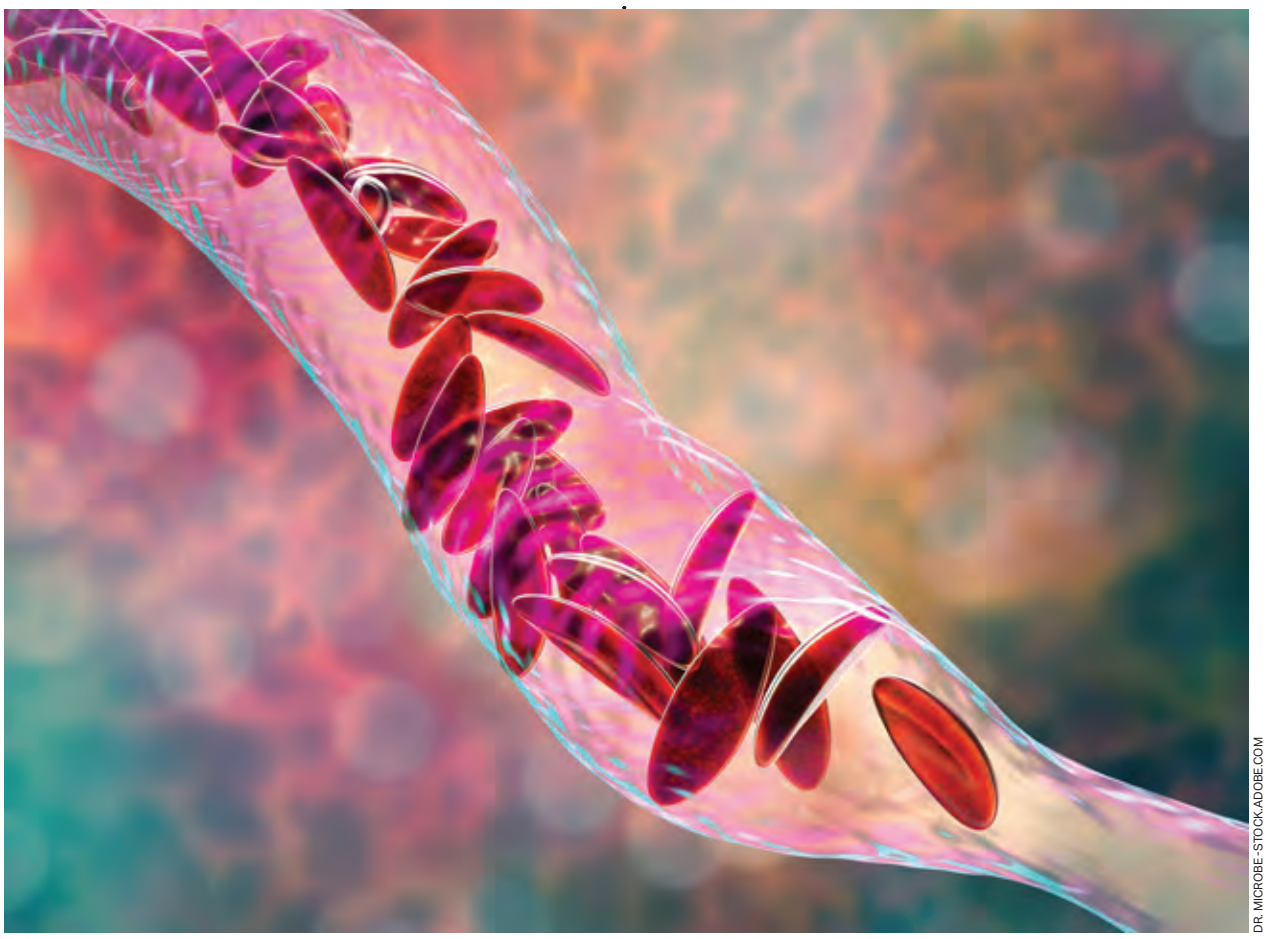
EM CASES

DR. HELMAN is an emergency physician at North York General Hospital in Toronto. He is an assistant professor at the University of Toronto, Division of Emergency Medicine, and the education innovation lead at the Schwartz/Reisman Emergency Medicine Institute. He is the founder and host of Emergency Medicine Cases podcast and website (www.emergencymedicinecases.com).

The Many Faces of Cerebral Venous Thrombosis

A difficult diagnosis in the ED

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



DR. MICROBE -STOCK.ADOBE.COM

Headache is a very common chief complaint in emergency department (ED) presentations. Of these patients, 98 percent will have a benign etiology. Of the remaining two percent, one percent will be reliably diagnosed on unenhanced CT or lumbar puncture (LP), however the other one percent cannot be ruled out on unenhanced CT or LP.[1] One example of a potentially life-threatening condition that most often presents with headache and cannot be ruled out with unenhanced CT and LP is cerebral venous thrombosis (CVT). Unenhanced CT has only a 41 percent to 73 percent sensitivity for the diagnosis of CVT, with CT venogram being the diagnostic test of choice in the ED, and MRI venogram being the gold standard.[2] This is just one reason the diagnosis is difficult to make in the ED. Another reason is that clinical manifestations are highly variable and nonspecific, as there are a multitude of possible locations of thrombosis that do not follow a typical arterial ischemic stroke distribution, and evolution over time is variable. The median time to diagnosis between initial presentation and diagnosis is seven days, however, CVT can present like a subarachnoid hemorrhage with a "thunderclap" headache, or gradually over days to weeks.[3] In fact, the headache of CVT has no specific characteristics, most often being diffuse, progressive, and severe, but sometimes unilateral, sudden, or mild, and sometimes migraine-like. Pain can originate from tension on the vein itself or from raised intracerebral pressure which causes diffuse headache. It may be positional (worse in the supine position) and may be aggravated by Valsalva, reflecting raised intracerebral pressure. Features that make the diagnosis of CVT *less* likely include purely unilateral pain, scintillating scotoma, and recurrent or episodic headache. Return visits to the ED for the same headache should be considered a risk factor. While headache is the most common chief complaint, others include seizure, encephalopathy, and focal neurologic symptoms.[4]

An understanding of the pathophysiology helps to explain the myriad clinical possibilities. When a venous clot forms, venous and cerebrospinal fluid drainage suffer, leading to upstream increased pressures. Raised intracranial pressure, cerebral edema, hydrocephalus and decreased cerebral perfusion pressure may lead to brain ischemia and subsequent hemorrhagic transformation, which are often devastating. With this pathophysiology in mind, it is no surprise that CVT can present with various clinical findings including vision changes, diplopia, nausea and vomiting, papilledema, cranial nerve deficits, encephalopathy, neck pain, proptosis, chemosis, mastoid pain, hemiparesis, dysarthria, aphasia, seizures, bilateral motor deficits and pulsatile tinnitus.[5] Nonetheless, CVT can be divided into four recognized syndromes, from most common to rarest: isolated elevated intracranial hypertension, focal neurologic syndrome, diffuse encephalopathy, and cavernous sinus syndrome, which may help the clinician in assessing pretest probability.

CVT is found most often in female patients 20 to 50 years of age.[6] Risk factors include all the traditional thromboembolic risk factors including pregnancy, estrogen use, cancer, prolonged immobilization, etc., plus head and neck infections (leading to septic cavernous sinus thrombosis) and head trauma, including basal skull fracture.[6]

Two key clinical features of advanced CVT are papilledema and loss of venous pulsations on fundoscopy.[7] POCUS may aid in identifying papilledema by measuring optic nerve sheath diameter, however the accuracy of this finding depends on the skill of the clinician.[8]

To curb the urge to order a CT venogram on every patient with unexplained headache, D-dimer has been proposed as a screening test for patients with a low pretest probability of CVT. The sensitivity of D-dimer for the diagnosis of CVT ranges from 82 percent to 98 percent, which is not good enough to rule out the diagnosis with certainty but may shift one's pre-test probability to aid in decision making around imaging.[9,10] D-dimer should be reserved for low pretest probability patients and it should be recognized that utilization of D-dimer may increase CT venogram use.

Unenhanced CT may reveal a hyperdensity in the superior sagittal sinus (the "delta sign") or straight sinus (the "dense cord sign"), but only in about 30 percent of cases. Hemorrhage, seen in about 30 percent of patients, is readily apparent on unenhanced CT. The findings of isolated bilateral frontal lobar or thalamic hemorrhages are another clue to the diagnosis of CVT on unenhanced CT.[11]

Once a diagnosis of CVT is made, it is imperative that these patients are started on either unfractionated or low-molecular-weight heparin. A common pitfall is to withhold administration of heparin when CT reveals hemorrhage(s). Even though hemorrhage extension is found in 11 percent of patients with CVT, this does not seem to be related to anticoagulation.[12] Intracranial hemorrhage is not a contraindication to heparin administration in patients with CVT.[13]

So when should we consider the diagnosis of CVT in patients presenting to the ED with headache? Otherwise unexplained headache in a young female with thromboembolic risk factors should prompt us to consider the diagnosis, perform a careful fundoscopic exam and consider a D-dimer in low-risk patients to help further risk-stratify patients. Patients with unexplained headache plus seizure, altered level of awareness, or focal neurologic sign(s) should also be considered for the diagnosis of CVT. Those patients with unremarkable unenhanced CT and LP findings, but with persistent unexplained headache and risk factors for CVT should, with shared decision making, be considered for a CT venogram done in the ED.

A special thanks to Drs Roy Basking and Amit Shah for their expert contributions to the EM Cases podcast that inspired this column.

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ONE MORE REASON NOT TO ORDER AN X-RAY

SOUND ADVICE

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POCUS in Cardiac Resuscitation

Tools to reduce CPR pauses

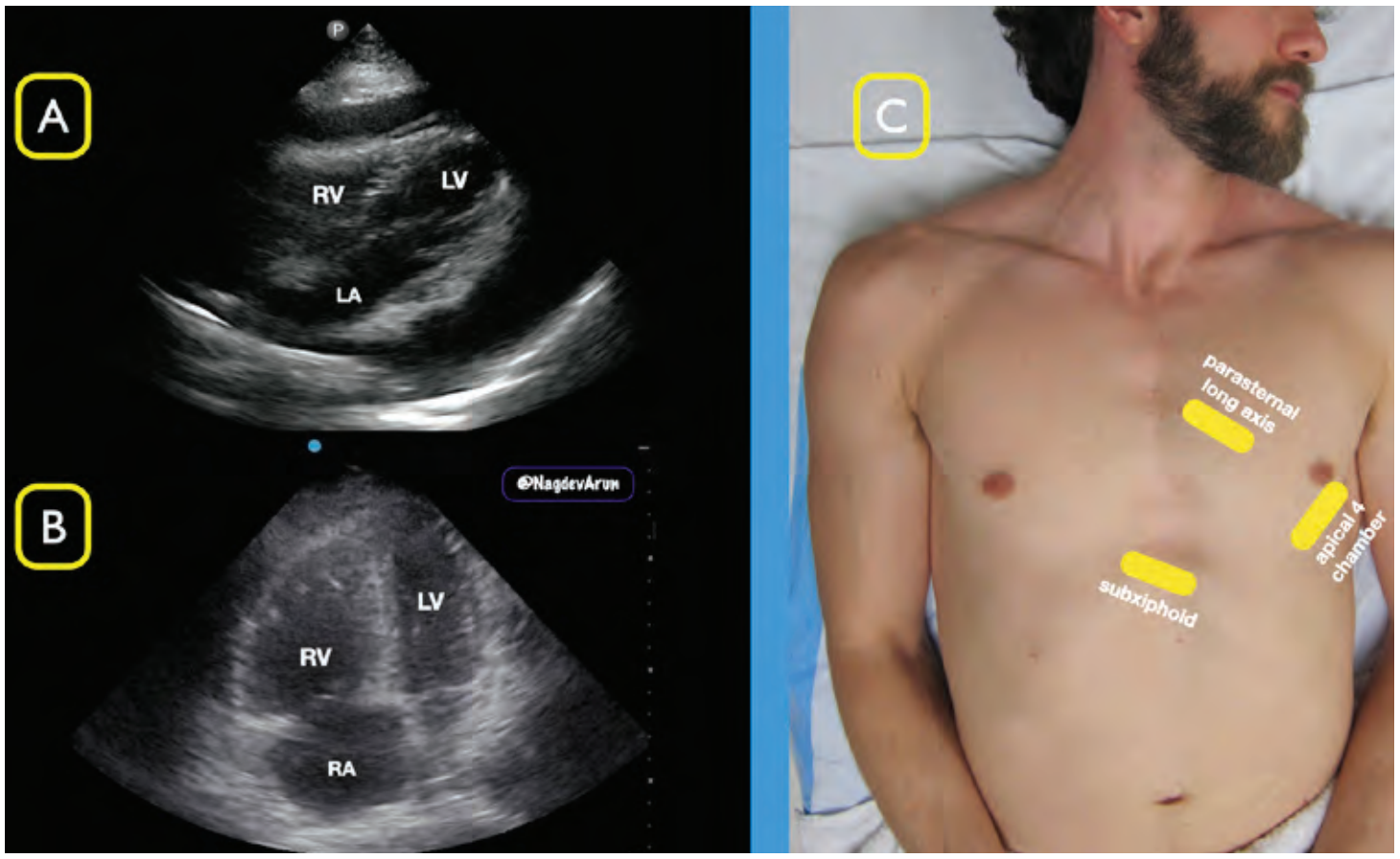

PHOTO CREDIT ARUN NAGDEV

FIGURE 1: A) Subxiphoid view demonstrating a pericardial effusion with signs of echocardiographic tamponade B) Apical four-chamber (A4C) view demonstrating right ventricular strain in a patient with a massive pulmonary embolism C) Three views of the heart when attempting to find a good window to image during cardiac compressions

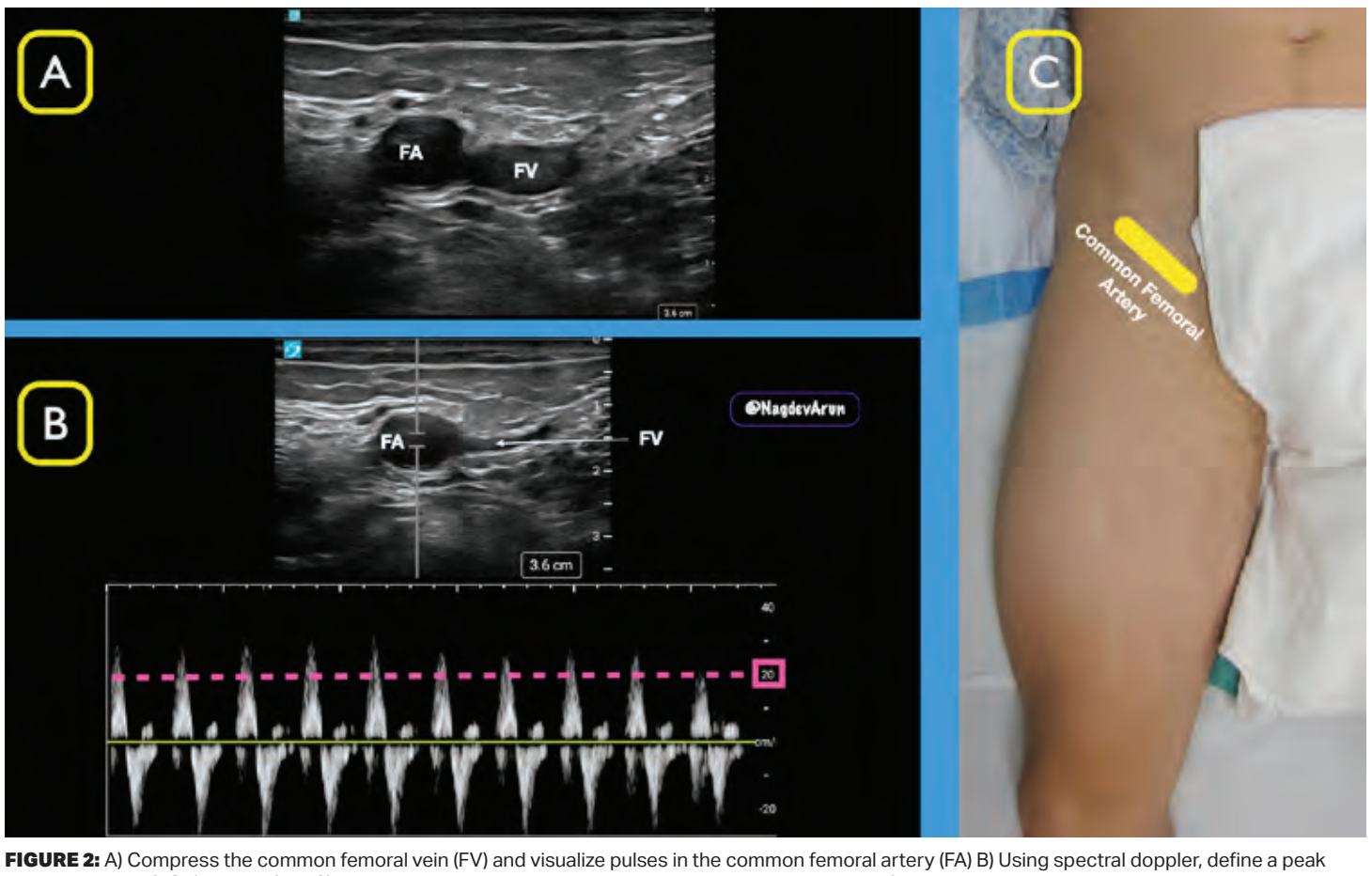

FIGURE 2: A) Compress the common femoral vein (FV) and visualize pulses in the common femoral artery (FA) B) Using spectral doppler, define a peak systolic velocity (PSV) >20 cm/sec C) Using a linear probe in the inguinal crease, locate the common femoral artery and vein

by KAITLEN HOWELL, MD; AKASH DESAI, MD; DAVID MARTIN, MD; AND ARUN NAGDEV, MD

Running an effective and evidence-based cardiac arrest resuscitation is a core skill for all emergency physicians. To identify reversible causes of pulseless electrical activity (PEA), emergency physicians have integrated point-of-care ultrasound (POCUS) into care for this group of critically ill patients. Specifically, during the brief 10-second pause of cardiopulmonary resuscitation (CPR), the goal is to rapidly assess for signs of cardiac tamponade, massive pulmonary embolism or other reversible causes of arrest. Unfortunately, two emergency medicine studies have demonstrated that emergency department POCUS use during the resuscitation of out-of-hospital cardiac arrests may inadvertently prolong CPR pauses, which has been shown to negatively impact survival.[1,2] Multiple regression analysis demonstrated that POCUS was associated with longer pauses (6.4 s, 95%CI 2.1- 10).[8] We believe that with some minor adjustments, we can effectively and safely incorporate POCUS into cardiac arrest resuscitation. Additionally, a recent novel concept from the resuscitation literature allows the clinician to take advantage of the benefits of imaging, while ensuring high-quality uninterrupted CPR.

Simple Steps to Improve Quality CPR When Using POCUS

The resuscitation of the patient in cardiac arrest can be difficult for even the most seasoned clinician. Protocolization of POCUS can offer a reduction in cognitive burden during this demanding period. Data at our institution and another large academic emergency department indicated that physicians were inadvertently increasing the duration of CPR pauses when using POCUS, forcing us to develop a simplified clinical POCUS pathway. ACEPNow's three-step cardiac arrest sonographic assessment (CASA) protocol asked the clinician to rapidly (in under 10 sec) answer one question during each CPR pause.[3]

Look for a pericardial effusion on the first pause, right ventricular (RV) strain on the second pause, and cardiac activity on the third pause. Each step was meant to streamline the CPR pause duration, while also allowing the clinician to determine the need to act on a reversible cause of the cardiac arrest. During active compressions, the clinician could also examine the thoracic cavity for the presence of a large pneumothorax, and the abdomen for the presence of intraabdominal fluid.

As expected, integration of this simplified protocol over the past five years has resulted in a decrease in CPR pause duration at our institution. We also have implemented simple adjuncts (in addition to the CASA protocol) to ensure high-quality CPR.

- **Find the echo view before pause:** During CPR, the clinician who is performing POCUS should attempt to find the ideal view of the heart. Often, this is a subxiphoid view, but can also be a parasternal long or apical four-chamber view (see Figure 1). The goal is to have a reasonable view before the CPR pause so that time is not wasted finding an adequate window.[4]
- **Use a 10-second clock:** Our nurse recorder for the code counts out loud from 10 to one during the pause so that the scanning clinician knows when to get off the chest. Chest compressions are always started at the end of the 10 seconds unless return of spontaneous circulation (ROSC) or a shockable rhythm is recognized. Also, we have set our recording timer on our ultrasound systems to six seconds so that the clinician is aware of the duration of the recording.
- **Review clip during CPR:** The clinician records the ultrasound clip during the pause and then interprets the video after CPR restarts.
- **Stay off the chest after showing there is no pericardial effusion or signs of right ventricle (RV) strain:** Each time the probe is placed on the chest for evaluation of cardiac activity, the physician risks a prolonged pause. Once POCUS has ruled out potential reversible causes of cardiac arrest (tamponade or RV strain), avoid excessive, repeat, cardiac ultrasound evaluations during CPR pauses. The goal at this point is to identify ROSC.

Modification to the CASA Protocol

After the first two steps of the CASA exam are negative (there is no clinically significant pericardial effusion or RV strain), our standard technique was to identify the presence of cardiac activity (at each subsequent pause), as a surrogate marker for ROSC. Unfortunately, there is significant variability between physicians when assessing for the presence of cardiac activity.[5] Additionally, there is uncertainty as to what degree of cardiac activity generates sufficient perfusion to safely stop CPR. From our clinical experience, there have been many instances when slight but concentric cardiac activity is noted on POCUS without a palpable pulse, making it unclear if CPR should continue. Recent data using ultrasound evaluation of the femoral artery have helped change the way we employ ultrasound in cardiac resuscitation. Instead of using our phased array transducer to assess for the presence or absence of cardiac activity (with the worry of prolonging CPR pause time and misinterpreting the presence of enough cardiac activity to produce a perfusable blood pressure), we have moved to the femoral region for imaging during CPR pauses. We switch to a linear probe, and image the femoral artery using B-mode as a surrogate for ROSC.

Switching to a linear probe and imaging at the common femoral artery has become our third step in our cardiac arrest ultrasound algorithm because this approach is faster and more reliable than subjectively feeling for a pulse. Ultrasound is more than twice as sensitive for the presence of a pulse than manual palpation.[6] Using a linear probe to identify pulsatility of the femoral or carotid artery has been shown to be more accurate than manual palpation for pulses, and can almost always be done in less than five seconds.[6] This modification removes the clinical sonographer from the chest, decreasing prolonged pauses in CPR. The simplest way to look for a pulse with ultrasound is to place a linear probe on the inguinal crease and identify the common femoral artery during ongoing compressions. The right femoral region is commonly selected because the first two steps of the CASA protocol are usually performed from the right side of the patient. The goal is to apply enough pressure to collapse the femoral vein, and look for pulsatility of the femoral artery (see Figure 2).

From our clinical experience, there have been many instances when slight but concentric cardiac activity is noted on POCUS without a palpable pulse, making it unclear if CPR should continue.

In addition to using B-mode ultrasound to determine the presence or absence of a femoral pulse during a cardiac resuscitation, spectral or gated Doppler can be added at the same location to identify whether there is a perfusable rhythm. Work by Gaspari, et al., defined that some patients previously thought to have PEA are now recognized as having "pseudo-PEA," where the heart is beating in an organized manner but a pulse cannot be manually palpated due to low cardiac output.[7] This scenario raises the question of how to identify if sufficient cardiac perfusion is present that CPR is no longer needed. Recent studies show that applying gated Doppler to the femoral artery can identify patients who have achieved ROSC whether or not they have a palpable pulse.[8] In practical terms, if femoral arterial pulsation is present on B-mode ultrasound during a pulse check, the next step is to use the spectral Doppler function to measure the peak systolic velocity, which may be used to define a perfusable pressure (or ROSC). This technique allows the clinician to determine the presence of a perfusable rhythm and may be even more sensitive than a rise in the end-tidal CO_2, which was previously considered the first sign of ROSC.[9]

Technique

Place the linear probe at the inguinal crease and look for pulsation of the common femoral artery on B-mode. Additionally, prior to the CPR pause, press the Doppler button and move the Doppler gate over the femoral artery. When the CPR pause starts, press the Doppler button again to measure a Doppler waveform. Keeping your non-scanning hand over the Doppler button as the CPR pause approaches will minimize delay to waveform recording. Freeze the waveform image and measure the maximum amplitude of the peak systolic velocity. A value of greater than 20 cm/sec has been shown in some studies to correlate to a systolic blood pressure over 60 mmHg (see Figure 2).[9]

Conclusion

Incorporating POCUS into the resuscitation of a patient in cardiac arrest is an important skill for the emergency physician. A protocolized algorithm and simple techniques to reduce CPR pauses allows POCUS to be integrated without the inadvertent complication of prolonging CPR pauses. Bedside imaging allows clinicians to diagnose reversible causes rapidly as well as to define endpoints for resuscitation. We use the initial steps of the CASA protocol to ensure that there are no acutely reversible causes on the first two CPR pauses, but then move to the right femoral region with a linear transducer once these steps are complete. Along with defining the presence of pulses with higher accuracy, we employ femoral artery Doppler waveform to determine the presence of a perfusable rhythm. This adjustment to our resuscitation protocol is one way to stay off the chest during compressions while also employing POCUS to help improve the care of our sickest patients.

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By the Numbers

SUICIDE PREVENTION

NATIONAL SUICIDE PREVENTION WEEK

SEPTEMBER 10, 2023-SEPTEMBER 16, 2023

NATIONAL PHYSICIAN SUICIDE AWARENESS DAY

SEPTEMBER 17, 2023

ADULTS WITH MENTAL ILLNESS,

1 in 5

IN 2021, OF U.S. ADULTS WITH MENTAL ILLNESS,

47.2%

Received treatment

IN 2021, OF U.S. ADULTS WITH SERIOUS MENTAL ILLNESS,

65.4%

Received treatment

PEOPLE WITH DEPRESSION

40%

Higher risk of developing cardiovascular and metabolic diseases than the general population

IN THE U.S. AT LEAST

8.4 MILLION PEOPLE

Provide care to an adult with a mental or emotional health issue

Source: NAMI. Mental health by the numbers. NAMI website. August 16, 2023. nami.org/mhstats.

Answer

The correct answer is retropharyngeal abscess (d).

A retropharyngeal abscess (RPA) is an uncommon but serious life-threatening infection that results from a purulent infection in the retropharyngeal space. It may be seen in all ages but most commonly occurs in children aged two to five years. A retropharyngeal abscess usually occurs after an antecedent viral upper respiratory illness that results in a suppurative cervical adenitis that then extends to involve the retropharyngeal space.

RPA may also result from trauma or extension of tonsillar or dental infections. Infections are generally polymicrobial with organisms that include *Streptococcal pyogenes, Staphylococcus aureus, Haemophilus influenzae, Pseudomonas spp,* and *Fusobacterium spp*, as well as other oral anaerobic organisms. Symptoms include fever, neck pain, nuchal rigidity, pharyngitis, and cervical adenopathy. Other symptoms include dysphagia, drooling, and trismus. Patients often refuse to extend their necks due to pain and a neck mass. Torticollis or a muffled voice may be observed. The abscess can compress the airway, resulting in stridor and respiratory distress.

Untreated RPA may progress to mediastinitis with a mortality rate that approaches 25 percent. Other serious sequalae include pericarditis, internal jugular thrombosis, and epidural abscess.

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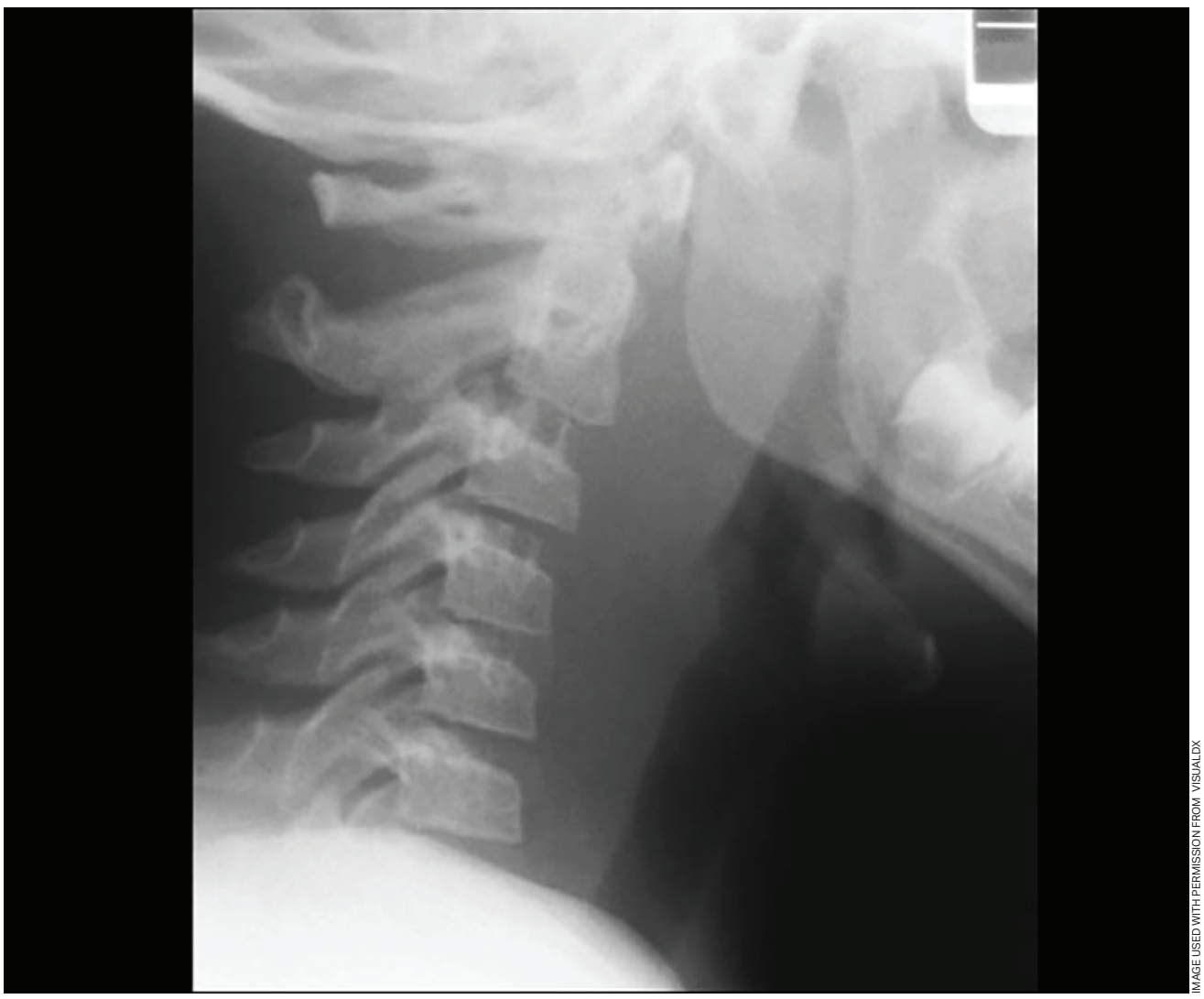

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Reference

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Q&A ABOUT OUR LITTLEST PATIENTS

KIDS KORNER

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

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

Are Pediatric Lungs Just Little Adult Lungs?

Question 1: What is the incidence of rheumatic fever in children in the United States?

Acute rheumatic fever (ARF) is a potential consequence of group A streptococcal (GAS) infections and was the leading cause of mortality in children in the early 20th century.[1,2] It is an autoimmune antibody response following a GAS infection that leads to cardiac inflammation.[2] Chronic rheumatic heart disease is when the cardiac changes from acute rheumatic fever develop into permanent heart-valve damage. We are going to focus on ARF for this discussion. Initial diagnosis of ARF includes a combination of major and minor criteria—typically, two major criteria or one major and two minor criteria. The major criteria are: arthritis, carditis, subcutaneous nodules, erythema marginatum, and Sydenham's chorea. Minor criteria include: polyarthralgia, fever at least 38.5 degrees C, erythrocyte sedimentation rate at least 60 mm/hr, C-reactive protein at least 3 mg/dL (i.e., at least 30 mg/L), or prolonged PR interval for age.[1-3]

While the major criteria of carditis used to include a new murmur on auscultation—suggesting a valvular dysfunction—the newer 2015 revised Jones Criteria for diagnosis now include the ability to diagnosis subclinical carditis via echocardiography.[3] The major health burden of ARF occurs in low- and middle-income countries, with low incidence in affluent countries (such as the United States). It is important to note, though, that certain populations tend to be disproportionally affected and these include indigenous Samoan, Hawaiian, Native American, and Alaskan native populations.[2] So how common is ARF in the United States overall? While there are reports of ARF deaths exceeding 1,000 children and adolescents in New York City in a single year in the late 1930s, there has been a significant decline.[4] More recent data can be found in a 2019 retrospective review of data from the Kids Inpatient Database as part of the Healthcare Cost and Utilization Project.[5] Pediatric discharges were reported by 2,784 hospitals in 2000 and the number of reporting hospitals increased to 4,179 in 2012. This database systematically and randomly samples pediatric discharges from participating hospitals. From these data, the authors looked at five reporting periods—2000, 2003, 2006, 2009, and 2012—and identified ARF case incidences of 0.63, 0.77, 0.64, 0.51, and 0.52, respectively, per 100,000 children. While the incidence is low, there are still between 408 and 599 cases of ARF in each of these selected years of study in the United States. Depending on your patient population, you should still keep ARF on your differential diagnosis list.

Summary

The incidence of pediatric acute rheumatic fever in the United States appears to range from 0.51 to 0.77 per 100,000 children and physicians should consider the diagnosis in the right clinical setting.

CONTINUED *on page 22*

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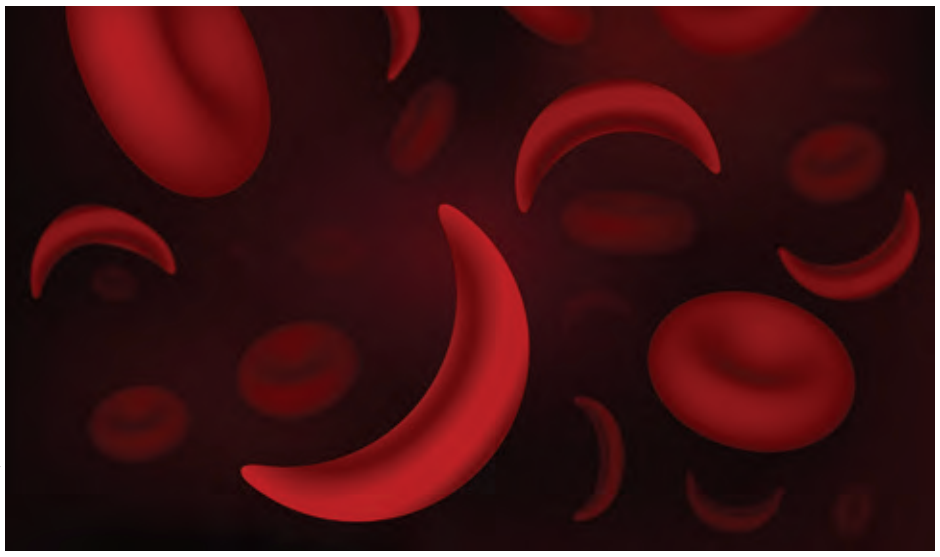

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Functional Asplenia

Question 2: At what age do children with SCA become functionally asplenic?

The spleen is important in the removal of encapsulated organisms in young children who have not developed antibodies to pathogens such as *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Salmonella* species.[6] Early studies regarding splenic dysfunction involved radio-labeled technetium-99 and demonstrated diminished uptake within the first six to 12 months of life, suggesting splenic dysfunction.[7] While this study showed diminished uptake of a radio-labeled substance, it still didn't necessarily mean that the child demonstrated either total or clinically significant dysfunction of the spleen. A later prospective study included 694 children with sickle cell disease at 19 U.S. pediatric sickle cell centers and suggested poor splenic func-

tion in 94 percent of sickle cell anemia (SCA) patients by 5 years of age; 28 percent of children had poor splenic function at 1 year of age and the authors noted that initial splenic dysfunction rose sharply after 6 months of age.[8] While functional asplenia may occur by 5 years of age, these studies suggest that splenic dysfunction begins as early as the first year of life.

But what if we could measure a patient's spleen via ultrasound in the emergency department (ED) to guide specific patient care? Is there a correlation? Practitioners have looked at splenic size on ultrasound and its association with splenic dysfunction. A multi-institutional, randomized, double-blinded, placebo-controlled trial (the BABY HUG trial) evaluated spleen size as well as serum labs and splenic dye uptake of technetium-labeled sulfur colloid.[9] This study served to report baseline data for a future randomized controlled trial on hydroxyurea in patients with SCA. A total of 203 infants, ranging from 7.5 to 18 months of age, were evaluated for baseline data. Of these children, 12 percent had normal uptake, 74 percent had present but decreased uptake, and 14 percent had absent uptake. There was no correlation between spleen volume and function assessed by dye study, suggesting that that measurement of the spleen is *not* a method that can be utilized for assessment of splenic dysfunction. It also suggests that there is a portion of infants and toddlers that already demonstrate very poor splenic function even at this young age. Another similar study of 100 children aged 7 months to 16 years evaluated ultrasound-measured spleen size and splenic function.[10] While the splenic sizes varied between these two studies in regard to the age of splenic auto-infarction, they found that spleen size did not predict splenic function. This would suggest that measuring the spleen via ultrasound is not a reliable method to predict splenic function in the ED setting.

There was no correlation between spleen volume and function assessed by dye study, suggesting that that measurement of the spleen is *not* a method that can be utilized for assessment of splenic dysfunction.

As might reasonably be expected with splenic dysfunction, the prevalence of bacteremia in children with SCA appears to be higher. Occult bacteremia in healthy children aged 3 to 36 months in the ED setting was found to be 0.25 percent in the post-pneumococcal-conjugate-vaccine era.[11] A retrospective study of all pediatric patients less than 18 years old with SCA at a single institution (outpatient, emergency, and inpatient) who had blood cultures drawn yielded a true bacteremia rate of 1 percent which is significantly higher.[12] Clinically, a febrile patient with SCA should be evaluated for bacteremia via blood culture, and according to the 2014 National Heart, Lung, and Blood Institute treatment guidelines, pediatric patients with sickle cell anemia presenting with fever should receive empiric parenteral antibiotics.[13]

Summary

Splenic dysfunction appears to develop within 6 to 12 months of age in pediatric patients with sickle cell anemia and functional asplenia should be assumed in all SCA patients. In febrile children with SCA, physicians should evaluate for bacteremia via blood culture and consider empiric antibiotics.

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