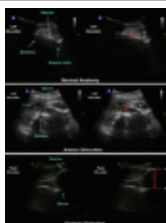




DR. JAQUIS Q&A
**Leading
During a Crisis**
SEE PAGE 8



SKEPTICS' GUIDE TO EM
**Is POCUS Best for
Shoulder Dislocations?**
SEE PAGE 20



ETHICS
**COVID
Talks**
SEE PAGE 14

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MAY 2020

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EQUITY EQUATION
**COVID-19 WHILE
BLACK**
SEE PAGE 19



PPE
**EM TAKING
THE LEAD TO
#GETUSPPE**
SEE PAGE 6



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AIRWAY

COVID LESSONS

Tips, tricks, and advice from my experience
treating COVID-19 patients in New York City

by RICHARD M. LEVITAN, MD, FACEP

Editors' Note: This article was accepted on April 14, 2020, and was accurate at that time. Because information about SARS-CoV-2 and COVID-19 is evolving rapidly, please verify these recommendations and information.

I recently spent 10 days at New York City's Bellevue Hospital, treating patients suspected of having COVID-19. Here are some of the things I learned about managing these patients.

CONTINUED on page 17

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FROM THE FRONT LINES TO THE HOME FRONT

Emergency physician
parents share how
they're managing the
COVID-19 crisis

by JORDAN GRANTHAM

For many emergency physician parents, the COVID-19 crisis has placed them in the unique position of managing not only the stress of caring for patients on the front lines but also caring for their families at home. It prompted new concerns about their own safety and that of their families. Schools shut down, normal routines were thrown out the window, face masks became de rigueur. EM families experienced the disruption but with an added layer of concern for their loved ones on the front lines.

ACEPNow spoke with several emergency physicians to hear what has helped them explain this pandemic—and their important role in fighting the virus—to their children of all ages.

CONTINUED on page 12

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SEE PAGE 22



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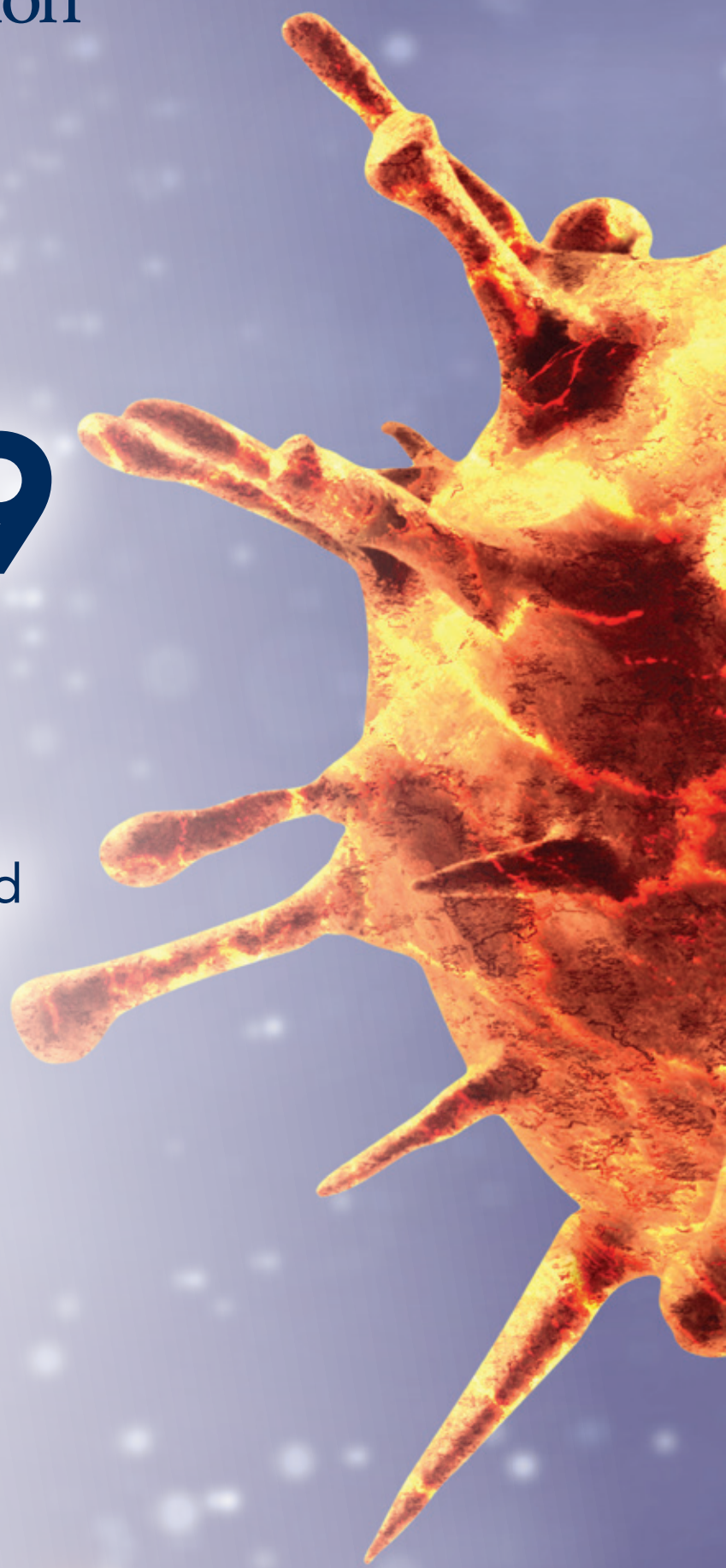
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NEWS FROM THE COLLEGE

UPDATES AND ALERTS FROM ACEP

COVID-19 Field Guide: A Living Resource

ACEP created the *Field Guide to COVID-19 Care in the Emergency Department* to assist in this crisis. This resource is a compilation of what we currently know on the evaluation and treatment of COVID-19. It is a living document that is being updated as new information, guidance, and best practices evolve. This field guide aims to provide the information you need to assess the available resources in your community and determine your local applications. At time of publication, the guide includes sections on Home Safety, Work Safety, EMS, Triage, Patient Stratification, Treatment, Special Populations, Business, Regulations and Liability, Personal Well-Being and Resilience, and the Impact on Education, Licensure and Credentialing. Use this resource at www.acep.org/covid19-field-guide.

Critical Decisions in EM: Special COVID-19 Edition

This special edition of Critical Decisions in EM includes lifesaving lessons focused on the ED evaluation and management of COVID-19, including timely information on risk factors, common examination findings, valuable diagnostic tests, and the safe use of pharmacological treatments. The issue also takes a deep dive into personal protective equipment, the provision of respiratory support, and what interventions should be avoided when managing these vulnerable patients. Learn more at www.acep.org/cdem/products.

Clinical Alert: Your COVID-19 Library

We continue to curate and organize relevant COVID-19 resources as part of our Clinical Alert at www.acep.org/covid-19. You will find member updates, federal and regulatory news, clinical resources, recent literature, and more.

Virtual Hill Day Focuses on COVID-19 Response

On April 28, ACEP's Virtual Hill Day—a reimagining of our annual Leadership & Advocacy Conference—gave nearly 500 emergency physicians the opportunity to speak directly with their state legislators about COVID-19 concerns. Participants representing 45 states conducted 306 conference calls in small, state-based groups. ACEP members shared stories about their experiences on the front lines of the pandemic while advocating for our key COVID-19 issues: personal protective equipment (PPE), liability, hazard pay, and coverage. To catch up on ACEP's federal and regulatory advocacy efforts during this crisis, go to page 10.

2020 President Elect & Board Candidates Announced

The Nominating Committee has selected the final slate of candidates for 2020. Elections will occur during the Council meeting on Sunday, Oct. 25. The President-Elect Candidates are Christopher Kang, MD, FACEP (WA); and Gillian Schmitz, MD, FACEP (GS). Candidates

for four Board of Directors positions are: Michael Baker, MD, FACEP (MI); Alison Haddock, MD, FACEP (incumbent – TX); Aimee Moulin, MD, FACEP (CA); Aisha (Liferidge) Terry, MD, FACEP (incumbent – DC); and Arvind Venkat, MD, FACEP (PA).



ACEP20 Still on for October

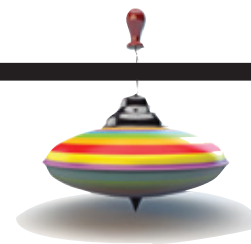
It is unknown how COVID-19 will affect the rest of this year, but we continue to plan for the ACEP Scientific Assembly Oct. 26–29 in Dallas. We hope our event can commemorate a memorable and hard year where your bravery and dedication were on display. While planning the in-person event, we are exploring virtual options for those unable to attend. Registration is scheduled to open July 1 at www.acep.org/acep20.

Congratulations, 2020 Award Winners!

Our 2020 honorees will be recognized during ACEP20 in Dallas:

- **John G. Wiegstein Leadership Award:** David C. Seaberg, MD, CPE, FACEP
- **James D. Mills Outstanding Contribution to Emergency Medicine Award:** John J. Rogers, MD, CPE, FACEP
- **Judith E. Tintinalli Award for Outstanding Contribution in Education:** Tracy G. Sanson, MD, FACEP
- **Outstanding Contribution in Research Award:** Alan E. Jones, MD, FACEP
- **Outstanding Contribution in EMS Award:** James M. Atkins, MD
- **Colin C. Rorrie, Jr. Award for Excellence in Health Policy:** Steven J. Stack, MD, MBA, FACEP
- **Policy Pioneer Award:** Amy M. Cho, MD
- **John A. Rupke Legacy Award:** Peter M. Fahrney, MD, FACEP(E)
- **Honorary Membership Award:** Pat Hughes, CMP; Jane Scott, ScD, MSN; and Hugh Dean Wilkerson, JD, MBA, CAE
- **Pamela P. Bensen Trailblazer Award:** Sharon E. Mace, MD, FACEP
- **Diane K. Bollman Chapter Advocate Award:** Robert (Bob) Ramsey, CAE
- **Community Emergency Medicine Excellence Award:** Adnan Hussain, MD
- **Innovative Change in Practice Management Award:** Rahul Sharma, MD, MBA, FACEP
- **Disaster Medical Sciences Award:** Irving "Jake" Jacoby, MD, FACEP
- **Council Meritorious Service Award:** Michael McCrea, MD, FACEP
- **Teamwork Award:** Harrison Alter, MD, FACEP; Marc A. Futernick, MD, FACEP; Aimee K. Moulin, MD, FACEP; and John J. Rogers, MD, CPE, FACEP
- **Horizon Award:** Theresa Tran, MD, FACEP
- **Champion of Diversity & Inclusion:** Andrea L. Green, MD, FACEP
- **Curmudgeon Award:** William K. Mallon, MD, FACEP

A NEW SPIN



Caution Required

Possible unintended consequences of COVID-19 antibody/immune testing

by HARRY W. SEVERANCE, MD, FACEP

It has been announced that rapid, point-of-care “antibody immune status” testing for the SARS-CoV-2 virus (which causes COVID-19) is now becoming generally available. This information has been promoted on various national news programs as a way to accelerate getting the population back to work and back to “normal,” and on-screen pundits are advocating rapid start-up of broad-scale national testing. This possibility has even been recently discussed by Anthony Fauci, MD, of the National Institute of Allergy and Infectious Diseases and the White House coronavirus committee.

The need to return society to a more normal situation and to return people to work is critical and becoming more pressing with each day. However, beyond questions surrounding the accuracy of such antibody testing in identifying those who truly present no transmission risk lies another, possibly yet unrecognized issue. I suggest that there may arise unintended consequences to rapid activation of programs

utilizing antibody testing as a pathway to attempt to return society back to normal.

Since there are no vaccines available now or in the near future, the only way that one can currently achieve some level of immunity from COVID-19 is by contracting the disease. This fact could lead, with national “immune” testing, to a division within our society of “haves” and “have-nots.” The haves with their “document of immunity test” and purported lack of ability to transmit disease would be allowed to resume their normal lives, including no social distancing, return to work environments, etc. Those who are not tested by this pathway, or are tested and found to have not yet acquired COVID-19 (negative antibody/immunity test), could find themselves within the limbo of still being home-isolated, socially distanced, and, more important, not allowed to resume their normal lives, such as return to work, or severe-

ly limited in such options with all the financial ramifications.

If antibody/immune testing proves to be acceptably accurate, if it can be determined that most recovered persons will not suffer reactivated disease or become reinfected, and if test kits can be provided in the large quantities needed to perform blanket testing by states and locales, there are pressing motivations for such testing to be deployed by states and other large segments of society in the attempt to get people back to work, stabilize the economy, and attempt to reestablish normal life.

However, we see in the news and political discussions that there is steadily mounting pressure on and by federal, state, and local governmental decision-making bodies to move immediately forward on such antibody/immune testing even prior to fully understanding accuracy, length and breadth of immunity,

and potential reinfection risk related to such testing. I want to bring an awareness to the fact that, beyond other questions and controversies surrounding antibody testing, there may be negative economic and social downstream consequences to large groups in our society with any rapid rush to blanket application of such testing as a pathway for reactivation of economy and society that need to be considered and addressed. ➕



DR. SEVERANCE is adjunct assistant professor in the department of medicine at Duke University School of Medicine in Durham, North Carolina, and attending physician in the division of hyperbaric medicine, department of emergency medicine at Erlanger Baroness Medical Center/Erlanger Health System and UT College of Medicine/UT Health Science Center in Chattanooga, Tennessee.



“A New Spin” is the personal perspective of the author and does not represent an official position of *ACEP Now* or ACEP.

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AND COMMENTS TO
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THE BREAK ROOM



A Letter to the Emergency Physician

Dear Emergency Physician,

I want to write a letter of thanks for all the sacrifices you are making for our nation during this COVID-19 pandemic.

Thank you for all the lives you have saved.

Thank you for fighting your hardest to save the lives that were lost.

Thank you for putting the greater good of society ahead of your own health and safety.

Thank you for comforting your patients who are in pain and distress.

Thank you for consoling those who have lost loved ones.

Thank you for driving from store to store, begging for PPE for your colleagues.

Thank you for sleeping at the hospital for days in order to care for patients.

Thank you for coming out of retirement to serve on the front lines.

Thank you for leaving your homes each day not knowing if or when you will hold your children and see your spouse again.

Thank you to all the spouses and families who are staying apart to keep each other safe.

Thank you to all the parents who can't be near their children because it is too risky to expose them.

Thank you to the adult children who are staying away from their parents to protect them.

Thank you for running toward danger when everyone's instinct is to run away.

Thank you for carrying this burden and all the tears you have shed.

Thank you for nights you have lain awake thinking about ways to manage this pandemic.

Thank you for the piece of yourself you have sacrificed in this battle.

Thank you being the conscience of our nation.

Thank you for never giving up.

Thank you for taking care of one another.

Thank you for making me so proud to call myself an emergency physician.

My fellow emergency physicians, our nation and society will always be indebted to you for the sacrifices you have made and the **countless lives you have saved.**

We will get through this crisis together. *E pluribus unum.*

Gratefully,

Michael Ruzek, DO, FACEP

Chair, ACEP Young Physicians Section

Heavy Burden of Heroism

A National Guard truck had hydroplaned, veered into the median, and flipped, killing the driver and trapping the other front seat occupant. I arrived at the scene as a paramedic/police officer. We realized to save the passenger, someone had to crawl into the tight space between the overturned truck cab and a water-filled ditch while the truck was being stabilized in place. I crawled in on my back to attempt to free the passenger, who had a pelvis fracture.

Once completely under the truck, my back rested on mud, with my patient directly in front of me. He was dangling upside down from a seat belt, which was exacerbating his agony from the fractures. The driver had clearly died from massive head injuries and was in my work field of view. In the tight space in which I had to work, his body was both an impediment and a distraction.

When I look back on that day now, I recall the intense feeling of responsibility I felt. I easily remember the feeling of being alone under that truck. There was no manual or training that prepared me for that day and that call. I was making decisions that would have immediate and potentially immense impacts on the health of my patient and me. Though I felt alone, I never was. My crew of other police medics, my supervisor, and rescue were all there. We had the necessary tools to make it safer, including air bags and cribbing. My life depended upon that equipment working in a far from ideal environment, slick and muddy. We adapted and we worked with what we had, and the mission was completed.

CONTINUED on page 13

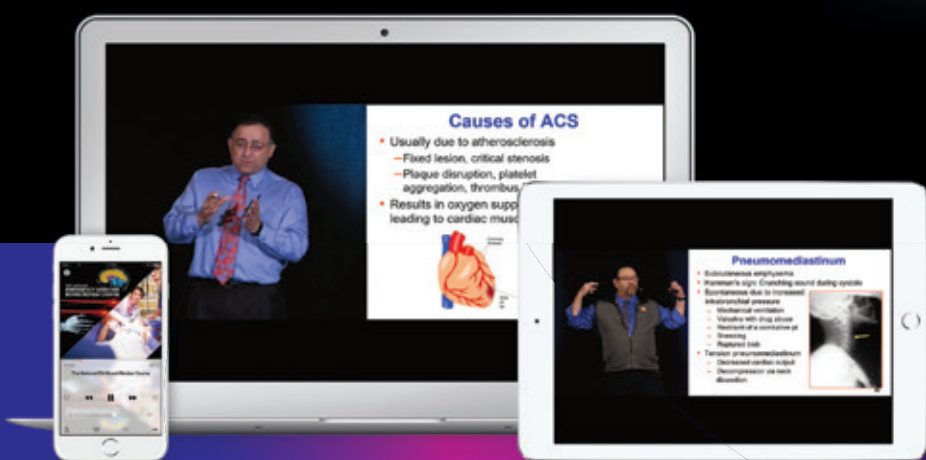
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EM Taking the Lead to #GetUsPPE

Emergency physicians address COVID-19 challenges through grassroots organization

by KELLY APRIL TYRRELL

In early March, health care workers in the United States began to sound the alarm. Personal protective equipment (PPE) was already starting to be in limited supply in hospitals and clinics across the country, and the COVID-19 pandemic had only just officially been declared.

On March 17, Esther Choo, MD, MPH, associate professor of emergency medicine at Oregon Health & Science University School of Medicine, issued a tweet calling for frontline health workers to demand PPE and tag their lawmakers. She created the hashtag #GetMePPE, and it immediately took off.

“A number of us started to sound the alarm about the need for increased production and equitable distribution of PPE across the country,” said Megan L. Ranney, MD, MPH, associate professor in the department of emergency medicine at the Rhode Island Hospital/Warren Alpert Medical School of Brown University in Providence. “We realized it was not going to happen at the scale or speed we needed.”

With Dr. Choo and other colleagues, she helped create the grassroots coalition #GetUsPPE (GetUsPPE.org). Weeks later, however, what she and its numerous other co-founders initially thought would be just a stopgap effort to help get PPE to health care workers has become an extended and increasingly sophisticated measure in light of high-level failures to address critical shortages.

“The supply chain is showing no indication of becoming functional, and now we are predicting a second wave [of illness] when we relax social-distancing guidelines,” said Dr. Ranney.

The health care workers, scientists, engineers, and others behind the scenes of #GetUsPPE have, since mid-March, been creating a centralized system for taking requests for PPE and seeing it distributed to the places it’s needed most.

“It evolved from a very rough website that basically allowed people to publicly post if they had a need for PPE and post if they had donations so they could match themselves, and now it’s a much more advanced database,” said Dr. Ranney. “We do behind-the-scenes analysis and matching on a daily basis.” To date, #GetUsPPE has fielded nearly 7,500 requests and helped distribute more than 1 million pieces of PPE.

This evolution is due, in part, to the work of #GetUsPPE medical lead Shuhan He, MD, an emergency physician at the Center for Innovation in Digital HealthCare at Massachusetts General Hospital in Boston, who helped build an on-demand database to assist with fulfillment.

“My skill set is building websites, and this caught national attention,” said Dr. He, CTO of #GetUsPPE. “I like to solve problems, and this is one that is very in the atmosphere. I [grabbed] onto it and realized it’s a big problem. Not everyone can solve every problem at once, so I focused on it.”

Evolving to Meet the PPE Need

The work of #GetUsPPE has evolved in the weeks since it started, as its volunteers began to understand the true complexity of the issues.

There have essentially been three phases of the effort. The first was handling small public donations of PPE from individual people with supplies in their basements or laboratories. The second phase involved working with domestic manufacturers and makers working quickly to produce some kinds of PPE in the United States. The third, Dr. He explained, has involved building algorithms to maximize PPE distribution once the international supply chain functions again.

“This is not what I planned to spend my months of March and April doing,” said Dr. Ranney, who is also a public health researcher. “I have never worked on supply chain issues before, but I couldn’t just sit by and watch my colleagues be put at risk.”

By now, Dr. He said he feels like he has “basically obtained

a PhD in supply chain management” in a matter of weeks.

“I’ve had quite the learning experience about PPE,” he added. “Why is an N95 [respirator] different from a KN95? Why is there a difference in manufacturing processes? Why does a hospital need one type of PPE and nursing homes need others? It’s a mixing and matching of problems.”

One measure of the effort’s success, said Valerie Griffeth, MD, PhD, an emergency physician soon moving to Advocate Health Care in Chicago, can be found in the way conversations have recently shifted with respect to PPE.

“I think we have made significant progress and, in a sense, that’s reflected in the fact that PPE has become secondary to the story about testing and reopening the economy,” she said.

However, it’s “absolutely disappointing” that #GetUsPPE and other grassroots efforts, such as Project N95 (www.project

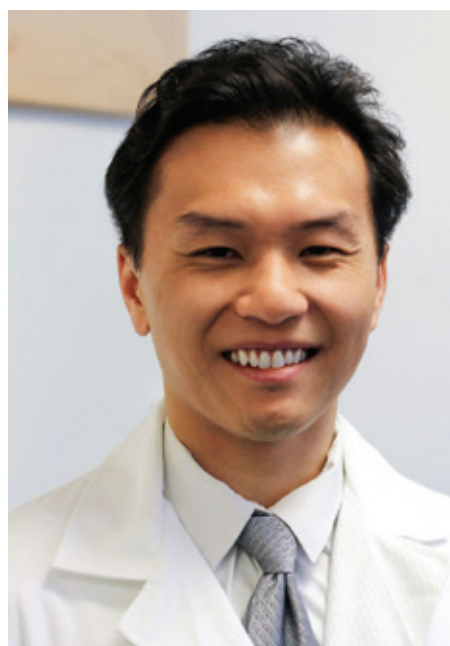
safety-net hospitals, nursing homes, tribal communities, and even detention centers where needs are acute. Smaller health care centers lack the buying power of larger health systems and institutions, the co-founders say, and physicians often have more influential voices than other kinds of health care workers. In late April, #GetUsPPE partnered with Project N95 to create the Demand Data Hub, a single site for registering PPE needs and tracking shortages.

“As more supply comes in, our hope is that we can facilitate equitable distribution across the country and make sure people are treated fairly, that PPE is not just going to the most convenient places,” said Dr. He, noting that the group should soon have news about its matching-and-distribution algorithm.

Dr. Griffeth continues to monitor and advocate for legislation working its way through Congress, looking for opportu-



Dr. Valerie Griffeth



Dr. Shuhan He



Dr. Megan Ranney

n95.org), have had to fill the void left behind by what she sees as a government that’s been slow to act.

In late January and into early February, Dr. Griffeth was in the midst of job interviews and her partner expressed some concern about her risks while traveling. Dr. Griffeth began looking into Centers for Disease Control and Prevention (CDC) guidance and gathering as much information as she could find about SARS-CoV-2 (called, at that point, 2019-nCoV), the novel coronavirus that causes COVID-19.

On Feb. 6, she said, the CDC posted guidelines recommending that health care workers don respirators when working with patients with respiratory symptoms. But on March 10, the CDC revised those guidelines to suggest health care workers wear simple surgical masks instead of respirators because of anticipated shortages.

“The CDC in this case got things wrong,” said Dr. Griffeth, who got involved as co-founder of #GetUsPPE after co-authoring a letter advocating for the protection of frontline workers. “This is something we saw coming and we could have prevented it if we’d taken more drastic measures.”¹

While Dr. Ranney and Dr. He have been involved in supply chain issues, Dr. Griffeth has been doubling down on her advocacy.² “I’ve been networking with politicians and grassroots organizations,” she said. “As physicians, we have a voice that people listen to and that’s true now more than ever. This pandemic has really raised our ability to get connected not just to state representatives but also to national representatives. People are taking our phone calls when, in the past, they may not have, so there’s been a lot of value in that.”

Next Steps

Today, #GetUsPPE is working to build a more robust database and to create scoring systems that can help prioritize PPE distribution equitably. The nonprofit’s goals include getting PPE to

nities to address everything from PPE shortages to the lack of adequate COVID-19 testing capacity. As emergency physicians, #GetUsPPE’s co-founders say they were poised to confront this challenge. They are, after all, Dr. Griffeth said, committed to solving whatever problems come through their doors.

“I think, to me, it also speaks to the urgency we see in the emergency [department] and the kind of salience we like as emergency physicians,” Dr. He said, noting that emergency physicians are also “at the forefront of tech.”

Dr. Ranney described emergency physicians as “canaries in the coal mine” for problems in the health care system, among the first to note shortages, new diseases, and new treatments. Through her work on the board of the American Foundation for Firearm Injury Reduction in Medicine (AFFIRM), she has helped #GetUsPPE achieve 501(c)(3) status and benefit from infrastructure already in place, including the ability to accept financial donations to assist in making it to the next phase.

“We are working nationally and internationally with the supply chain to help fix it,” she said. “It highlights a lot of the systemic issues in the health care system that we in emergency medicine know so well. We’ve been putting Band-Aids on the health care system for a long time, and we’re trying to pull those Band-Aids off to fix the issues that frustrate us on a daily basis.” ➔

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LEADING DURING A CRISIS

ACEP President Dr. William Jaquis discusses meeting the challenge of COVID-19

Times of crisis test the mettle of our leaders and demonstrate the importance of having smart, decisive, compassionate leadership backed by knowledgeable, dedicated advisers and staff.

When William Jaquis, MD, FACEP, stepped into his role as ACEP President at ACEP19 in Denver, no one could have predicted that SARS-CoV-2, the novel coronavirus that causes COVID-19, would soon be testing him, ACEP, and the whole specialty of emergency medicine.

Dr. Jaquis recently had a call with *ACEP Now* Medical Editor in Chief Jeremy Samuel Faust, MD, MS, MA, FACEP, to discuss ACEP's efforts to meet the unprecedented challenge posed by COVID-19. Here are some highlights from their conversation.

JF: How was your term as ACEP president going before coronavirus? What were you focused on before it took over?

WJ: It's a little hard to remember when there wasn't coronavirus at this point.

The President takes his presidency at the ACEP annual meeting and from there goes to the Board retreat. There's a lot of planning at the Board retreat, and some of the committee structure and objectives get worked out as well as task forces.

For the retreat itself, my approach was to be very strategic. We talked about how this is different from being absolutely excellent at something. That probably prepared us for what was to come—not knowing it was to come—because certainly it's time to be strategic.

Also, there were the three task forces. The first was the future of emergency medicine, where we had a Star Chamber group work through the parameters for that work. It is still going on, although some of it will be deferred.

The second is rural health. As emergency medicine, we have a very big question to answer: For ACEP, are we driven by members and their needs, or are we driven by the whole spectrum of emergency care? We have to walk through what that means when we make choices and have discussions. Rural health is clearly an area where we need more work, so we set up a task force to look at how we can do a better job. Fortunately, there are many people who can help us with this.

The final one is on EM group ownership and private equity. Those are the things I'm working on.

JF: Turning to the question on everyone's mind: coronavirus. When did you start to understand that the coronavirus outbreak was going to be more than your average crisis? How did you respond when you had that realization?

WJ: I don't know that I'll mention a date. There are key points in time for me. The first was when it hit our shores and how hard it hit our shores. It was clear we weren't ready. When it hit Washington state is when we knew it was here. We had no way to change the course of it at that point—it was going to be pretty widespread. We just had to see the severity of it.

The other piece is, as young people started to get sicker, the question of who is safe from this virus and why. We still don't know that answer. Those were the key points where it was pretty clear it was going to be widespread and there was going to be a big question of how we might re-stratify people and how we might take care of ourselves, frankly.

JF: Knowing that hindsight is 20/20, is there anything that we could have done differently in January or February?

WJ: The problem in emergency medicine is we start to see things and it's a little while before people prove them. With places like the CDC [Centers for Disease Control and Prevention], the cases that they objectively say are COVID, that they define as COVID, so many people attach to that information

and it's hard to get them out of that thinking. But there are two things, and they are not any secret. The first is more widespread testing to see what it is we had, and where, and who. That's still an issue.

The other piece is, once we started to recognize the severity of disease and how widespread and difficult it was, the production and distribution of PPE [personal protective equipment], and that's still a problem as well. Now it's clear how disrupted the production supply chain has been. The fight we're all having with each other to get that type of equipment should be better coordinated.

Even in emergency medicine, we may have taken a while to figure out that this is not "just another flu." And even though 85, 90 percent of the people are going to have mild disease, we don't know which 85 or 90 percent that is.

JF: How is ACEP making a difference in this moment? How do you balance the need to maybe criticize leadership in government when they're not responding quickly enough with the need to keep that communication line open?

WJ: I'm not big on criticism honestly. In the hot wash afterwards, or the debriefing, we can be critical. The question now is how we get things done. I don't know that it's necessary for me, at least in this position, to be critical but more to be a voice for what we need and how we need to get it and where we need to get it and to stay open to whatever avenue we can to do that.

We do a ton of work both out front and behind the scenes with many federal agencies, CDC, HHS [Department of Health and Human Services], CMS [Centers for Medicare & Medicaid Services], even The Joint Commission, the FDA [Food and Drug Administration], the White House, and all of our elected leadership both on the state and federal levels. In order to have that continued dialogue and to keep that white hat messaging for us, we have to stay a little bit out of the criticism. Quietly, we can be critical, but we really are looking, with everything we do, to say: How can we get this? Where's the supply chain? How can we help? How can we use our chapters? Our staff is working on this seven days a week, 12 hours a day, if not more, trying to figure out all those pieces of behind-the-scenes work we have to do in order to get things done.

JF: Can you give our members a sense of some wins that we've had recently?

WJ: Certainly telemedicine is a win. That separates us from people who are infected. It allows some of our sites to decompress, potentially, from things that don't have to come to their department and do so in a way that recognizes how we have to do it and where we have to do it. It removes some of those EMTALA constraints and also allows us to effectively bill for it.

The other piece where I'm optimistic is the issue of payments. One thing that's pretty concerning is the drop in volume in a lot of places. How do we make up for some of that drop in volume? We've been working hard on that with multiple entities to look at other payment methodologies. It's not a win yet, but we're getting a good audience. Every industry is looking at how they can stay solvent, stay afloat. We are



Dr. William Jaquis has been sending video updates to ACEP members during this crisis. View the videos at www.acep.org/president-COVID-videos.

doing the same thing for our physicians, which I think is going to be huge.

JF: Once we get through this crisis, what do you think the major take-home messages will be for emergency physicians and medicine in general? Is this an opportunity for our field to enhance our presence in the national conversation about health care both now and in the future?

WJ: I think it can be, but a lot of that has to do with how we react. We have this period of time where people are looking at us in a very, very favorable way for the work that we do. It's work we know we do all the time, but it's more evident when there's this huge crisis. But riding that wave means some additional work that we can't forget. That has a lot to do with how we look at our expertise but also our ability to advocate. As physicians, take this anxiety and anger you feel now, which is so justifiable, and channel it into something that leads you to continued action after we finish.

One of the things we're starting to set up already is how we can inform whoever is going to make those decisions about what it is we really need. We, as emergency medicine, need to be in that discussion on how we prepare for what might be next and have people understand what we do and its value. We need people to continue (if they are already doing it) or start (if they're not) going beyond the clinical piece by telling our stories, by getting involved with advocacy. All of those pieces will really help us in the future.

JF: On a personal level, are you getting any sleep? Are you able to do the things that you enjoy doing, the things you love outside of medicine, or is that on hold and it's COVID-19 all the time?

WJ: I think it's on hold for a lot of us. Am I getting some sleep? Gov. Cuomo said it fairly well. How are you going to sleep when we're in the middle of these crises? We have people that need the work we do, and so I do get some sleep, but it's not what I will get when this is all done. And the things I love—again, I don't think any of us are able to do them right now.

On the other hand, one of the things that is happening is reestablishing what things are important to us and understanding how, on a day-to-day basis, we might take them for granted and figuring a way, at the end of this, to reestablish those components. We are at the tip of the spear and at the front lines in this, but there are a lot of people working in support of us as well—from those people working grocery stores to the people working in our apartments with us. And so it's important to understand how grateful we are to them as well and be able to express that gratitude. 🧡

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ACEP4U: Caring for You as You Care for COVID-19 Patients

BREAKING DOWN FEDERAL AND REGULATORY BARRIERS TO COVID-19 CARE

by JORDAN GRANTHAM

Editors' Note: This article was accepted on April 17, 2020, and was accurate at that time. We are seeing sweeping regulatory changes and new bills passed at an incredible pace, so we may have more updates by the time you read this. Visit www.acep.org/COVID19-advocacy for the latest news as this crisis evolves.

Our mission statement says it loud and clear: ACEP is the leading advocate for emergency physicians, their patients, and the public. And never has our mission been more important than during this COVID-19 pandemic.

While you have been digging in on the front lines, we have been deep in the federal trenches, pressing for physician safety and regulatory improvements to help you save more lives.

The political environment is moving at an unprecedented pace, but that's fine with us—after all, emergency physicians thrive on urgency and action. Your collective calm and competence during this crisis are shining a spotlight on what makes this specialty so...**special**. Never has the voice of emergency medicine been so instrumental.

That Escalated Quickly

When COVID-19 came on the scene, your ACEP advocacy team quickly developed a comprehensive list of policy changes that would address our complicated concerns: workforce protection and mobility, access to care, and frontline financial support. We sent this list to all members of Congress and policymakers involved in the development of COVID-19 legislation and regulations, and our chapters have used the same list for state-level advocacy.

Social distancing was already in place, but we made sure your voices were heard. ACEP hosted two virtual Hill briefings for congressional staff: The first featured emergency physicians from Washington state who gave frontline accounts from the first significant outbreak of COVID-19 patients in the United States, and the second included ACEP leaders who spoke directly to our policy priorities while providing perspective on what it's like to be a frontline physician during a pandemic. On April 28, we hosted 306 legislative meetings during Virtual Hill Day in lieu of our normal Leadership & Advocacy Conference (see page 3).

On the regulatory side, we sent a letter to Alex Azar, secretary for the Department of Health and Human Services (HHS), outlining specific changes and regulatory waivers that would protect emergency physicians and other frontline health care staff while increasing patient access to care.

These initial letters to Congress and the policies therein kicked off a quick cascade of significant changes that have had a major impact on emergency medicine. Here's a progress report outlining where we stand on our federal and regulatory COVID-19 policy priorities.

Pushing for PPE

ACEP Policy Priority: Increase availability of personal protective equipment (PPE) for emergency physicians and other frontline personnel responding to the epidemic. Fully utilize Strategic National Stockpile to maximize dissemination of critically needed PPE.

Progress: We led a grassroots campaign that generated more than 120,000 letters to members of Congress, urging them to prioritize PPE for frontline personnel and to release of PPE in the Strategic National Stockpile. This was one of our most successful grassroots efforts ever!

ACEP found out some hospitals were sanctioning staff for wearing donated or self-purchased PPE. We discussed this problem with The Joint Commission (TJC), sharing firsthand accounts from our members, and then TJC issued a statement of support for allowing staff to bring their own standard face masks or respirators to wear at work.

ACEP is also addressing this problem with the American Hospital Association (AHA), the Centers for Disease Control and Prevention (CDC), the Occupational Safety and Health Administration (OSHA), and the Food and Drug Administration (FDA). ACEP is working with GetUsPPE.org to connect private industry with hospitals and clinicians in need.

Expanding Access to Care Through Telehealth

ACEP Policy Priority: Guarantee telehealth services can be fully utilized by removing originating site limitation under CMS telemedicine rules and allowing emergency physicians to bill for ED evaluation and management (E/M) codes.

Progress: The Centers for Medicare & Medicaid Services (CMS) has significantly expanded existing telehealth policies under Medicare in an effort to enable patients to communicate with their doctors remotely during this national emergency. The initial CMS guidance was unclear about how emergency physicians could, in fact, deliver telehealth services. ACEP was in constant contact with CMS, successfully advocating for two major CMS policy changes:

- Allowing medical screening exams (MSEs), a requirement under EMTALA, to be performed via telehealth
- Adding the ED E/M codes to the list of approved Medicare telehealth services

Both policy changes are critical. Being able to perform MSEs via telehealth will help protect emergency physicians from unnecessary exposure to the virus and help preserve limited supplies of PPE. Having the ED E/M codes on the approved list of Medicare telehealth services enables emergency physicians to be appropriately reimbursed for the high-quality and high-intensity services they deliver remotely.

To facilitate these important changes, ACEP cohosted a

webinar with CMS so our members could ask questions about the new EMTALA and telehealth policies.

Expanding Liability Protections

ACEP Policy Priority: Enact temporary liability protections for the duration of the pandemic for health care professionals who are screening and treating COVID-19 patients.

Progress: On behalf of every emergency physician who may be forced to make difficult or impossible treatment decisions during this pandemic, ACEP is actively working to secure immunity from liability. ACEP President William Jaquis, MD, FACEP, explained the need for increased liability protections in a meeting he had with Vice President Mike Pence and other Trump administration officials and we are working directly with Congressional lawmakers to include liability protections in future COVID-19 legislation.

A lot of the liability movement will happen on the state level, so we provided a template letter asking for full immunity to every state chapter.

To date, New York, Illinois, Massachusetts, and Connecticut have made declarations that have included strong liability protections for frontline health care practitioners. Several other states have indicated that they believe statutes related to declared emergencies provide this protection. A couple of other states have indicated that the governors do not believe they have authority to do this. There is political momentum on this issue, and ACEP believes we will see this addressed in many more states soon.

Medical liability reform has always been a priority for ACEP. When we're on the other side of this pandemic, we will make the case that liability protections are still appropriate after the crisis.

Seeking Financial Support

ACEP Policy Priorities: 1) Ensure federal and state emergency funding is targeted and distributed beyond hospitals, such as for EMS, emergency physicians, and other relevant hospital-based specialty physicians who are not hospital-employed. 2) Provide financial stability so emergency physicians can treat patients, maintain readiness, and be fully prepared for patient surges. 3) Furnish temporary relief for student loan borrowers by providing all necessary flexibility for repayment during this uncertain time.

Progress: We have consistently pressed for emergency physicians and other frontline health care workers to be prioritized

CONTINUED on page 13



Facing COVID-19
together on the
front lines.

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COVID Conversations: Every Kid Is Different

Maybe future parenting books will include a chapter titled “How to Solve the Pandemic Parenting Puzzle,” but for now, physician parents are left without a standard pathway. Still, they agreed that communication has to be tailored to each child depending on age, personality and family circumstances.

When Dr. Wilson volunteered for a three-week assignment in New York City to care for COVID-19 patients, he and his wife discussed the disease with their older kids differently than with the younger children. “I told them, ‘It’s a really bad disease that is killing a lot of people. At the same time, we know that if we are given talents and tools to help, we can’t sit here and watch other people suffer.’” Dr. Wilson said they talked about it in context of their religious beliefs, discussing how important it is to “step up and do something” if you can lessen someone’s pain and suffering.

Dr. Mell said his older children ask a lot of scientific questions such as, “Why can’t we use radiation?” and “Did you intubate any patients last night?” while his younger children are more concerned with whether they’re allowed to hug him when he gets home from work.

In Dr. Shenvi’s household, her husband is in the middle of treatment for a brain tumor, so their children are already accustomed to having honest conversations about mortality. That groundwork probably made the COVID-19 discussions easier, Dr. Shenvi said. “I think it’s less important what we say and more important how we are acting, because [our children] will take their cues from us,” she said. She and her husband are staying calm and trying to maintain normalcy. “We’re not, you know, hoarding toilet paper,” she joked.

Dr. Gotlib and his wife, a home care nurse who is also working a lot during this crisis, are seeing their kids react very differently to the stress of a global pandemic. His 8-year-old daughter is completely unfazed, while her twin brother is a different story.

“He asks me every day what my shift is. He wants to know when I’m leaving, and when I’m coming back. He wants to know if I’m on an 8, 10, or 12,” Dr. Gotlib said. “It worries me how he’s taking it, because he seems to be getting more introverted and anxious as this [crisis] progresses. We do our best, but when we’re solo [parenting] whenever we’re home, it makes it hard to focus. We try to reassure him the most that everything is fine, that Mom and Dad are safe, that we’ll always be there for him. We try and avoid having work conversations when he’s around.”

The Gotlibs also have a 10-year-old son who is deeply curious about his parents’ role as health care workers during this pandemic. “He’s a really emotional kid, and he gives me big hugs every night,” Dr. Gotlib said. “I don’t think he realizes those hugs support me as much as they support him.”

When in Doubt, Demonstrate

For many kids, seeing is believing. When it comes to quelling COVID-19 fears, many emergency physician parents deployed a similar teaching tactic: They brought out the personal protective equipment (PPE). They donned and doffed, showed their kids the various masks and goggles, explained how each piece worked, and walked the children through the post-shift decontamination process.

“I put [my PPE] on for them, and I was actually wearing it around the house,” said Dr. Mell, noting that his kids agreed the gear makes him look like Bane from the Batman movies. When he and his wife, Deb, learned of the PPE shortage in some hospitals, their kids helped them ship extra masks to emergency physicians in need. Ms. Mell said she thought it made their children feel better because they were doing something to contribute, just like their father.

When he heard his 7-year-old praying that the coronavirus wouldn’t kill anyone in their family, Dr. Wilson wanted to do something to lessen her fears. He spread 100 pieces of cereal on the table in front of his younger children, each one representing a person with COVID-19. He separated the pieces into piles to show how many are asymptomatic, mildly ill, dying, already have chronic illness, are over a certain age, etc. Seeing the visual demonstration “helped them process [our risk],” Dr. Wilson said.

For the physicians with younger children, the key messages

CONTRIBUTORS



VONZELLA BRYANT, MD, FACEP, EM clerkship director at Boston Medical Center/Boston University School of Medicine, with two children (ages 12 and 10)



JORDANA HABER HAZAN, MD, FACEP, and ALBERTO HAZAN, MD, emergency physicians in Las Vegas with two daughters (ages 4 and 2)



CHRISTINA SHENVI, MD, PhD, FACEP, professor and associate residency director for the University of North Carolina Department of Emergency Medicine, with four children (ages 11, 9, 7, and 5)



ARI GOTLIB, MD, EM faculty at McLaren Oakland Hospital in Pontiac, Michigan, with four children (ages 10, 8, 8, and 4)



HOWIE MELL, MD, MPH, CPE, FACEP, an emergency physician who works in St. Louis but lives in North Carolina, with four children (ages 14, 12, 10, and 7)



MICHAEL WILSON, MD, locums physician from Tyler, Texas, with seven children (ages 18, 16, 14, 7, 5, 18 months, and 6 months)

are simple and interactive. The Hazan daughters are just 4 and 2 years old, so it’s all about teaching them about health and hygiene in a fun, lighthearted way. “We ask them about what we do to stay healthy and prevent germs from spreading. We talk about properly washing our hands, and this has been fun for them,” said Dr. Haber Hazan. “My daughter has shown me how to wash my hands between each finger and on both sides; she loves to correct me when I’m not doing this properly.”

It can be hard for young children to remember not to run straight into their parents’ arms when they get home. “We’ve told them to be the ones to remind us to shower right away when we get home. This puts them in charge,” Dr. Haber Hazan said. “When I enter the house, I get immediate orders to go right upstairs to wash the germs from the hospital.”

A New Normal at Home

Dr. Bryant’s family shares a home with her mother, who had COVID-like symptoms after returning from a trip abroad. Because she worried her mother may have had the virus, Dr. Bryant carefully explained to her kids why they would be quarantining very strictly to prevent spreading it to others. She said her children have taken it in stride for the most part, although there has been an uptick in sibling arguments.

For her, the hardest part is suddenly homeschooling her stir-crazy children while balancing her work responsibilities. Her advice to other emergency physicians trying to balance it all? “Pace yourself, just like we do with busy shifts in the ED. It’s going to be a marathon and not a sprint,” she said. “If we are anxious, our kids are going to be anxious. Like the motto in our ED, we have to ‘Keep Calm and Trauma On,’ which, in this case, the trauma is managing family life in the time of COVID.”

Dr. Shenvi said she is staying focused on the facts and what is within her circle of control. “There’s lots of things that I’m concerned about—the economy or unemployment or people

who have serious illnesses—that I can’t affect at all. The only things I can control are what I do with my family, my house, my time, my energy. And so, I’m going to focus on making that as supportive to my family as possible.”

Working with Unfamiliar Worries

Many emergency physicians are used to accepting some risk when they go to work, but it’s a very different feeling to worry about bringing the virus home to their families.

“We’re used to doing dangerous things ourselves. Oftentimes, the enemy is over and done with by the time we’re even seeing the patient. The hurricane’s done, the earthquake, the fire, the shooting,” Dr. Wilson said. “When the patient comes with the enemy still [present], you know, that’s a hard war to fight.”

Dr. Gotlib acknowledged the new burdens he’s feeling: “Knowing that, while I’m telling my kids I’ll always be there for them, I still more than doubled my life insurance and disability a month ago. Knowing that I’m intubating COVID patients daily with PPE that I purchased myself and then coming home to them, hoping no one gets sick or they don’t carry it to someone else.” Still, he’s thankful to have a job when many in the country don’t, and spending this extra time with his family reminds him how fortunate he is to have a great support system.

Dr. Haber Hazan said she and her husband, who is also an emergency physician, are definitely experiencing fear and uncertainty, but their kids have inspired them with their resiliency and willingness to accept change. “We are grateful for time together at home where we can slow down and reflect on what is most important to us,” she said. “While we worry about protecting them from COVID-19—both emotionally and physically—our children have served as a reminder to find joy in this moment.”

MS. GRANTHAM is ACEP’s communications manager.

THE BREAK ROOM | CONTINUED FROM PAGE 4

I am sharing this story because it is emblematic of the uncharted territory we are experiencing with this pandemic. It was not a part of our training. Unlike my story, there are significant issues with inadequate resources, PPE, ventilators, and testing, all of which place many at risk. As clinicians, you are not only risking your own lives doing your job but also the lives of your family, your friends, and your colleagues.

However, nobody else can do it. It is literally up to you.

Despite all this, you humble and amaze me with your creativity, perseverance, and bravery. Best practices are being developed daily, saving countless lives. You continue to show up and deliver.

Organizations like mine have been busy as well, attempting to develop protocols, equipment, and other resources to help you. We advocate and work hard to ensure you have what you need to respond. While you may feel alone, in fact, many of us stand with you and millions count on you. You might not feel it today, but it does not make it any less true. The fact remains you are at the literal bleeding edge of this response.

After nearly an hour of trying to free the guardsman from the vehicle, I was finally able to get him out by using his own pocketknife to cut his seat belt. We ended up saving his life. I was a small but visible part of that response. That day I learned the value of experience, a

supportive team, ingenuity, and perseverance. It was not luck, nor was it an act of individual heroism. This is what you are doing every patient, every day, every shift. On my behalf and that of every person who will benefit from your collective and individual heroism, thank you.

*Robby Frantz, MD, FACEP
President, TeamHealth West Group*

Valiant Tears

I cried at work today. And that hardly ever happens. It had been a while, but I wasn't longing to do it again. I won't tell you about the last time I cried because it's too sad. My colleagues and I cried for good reason today because a precious child died in room 10. And I'm having some difficulty finding a place for my emotions. So I write.

It is fortuitous that last night I watched a video on Netflix of a talk given by Brené Brown. So moved by this talk I was that I shared my feelings about it with some of my nurse colleagues at the start of my day. Brené talked about vulnerability and courage. The two are inseparable. She defines vulnerability as taking a risk in an endeavor with uncertain outcome, limited control, and emotional

exposure. We do that every day in our work. She says that no courageous act is undertaken without the prerequisite of vulnerability.

Our work can be vexing and arduous, but most days it doesn't seem so when we are doing it. I think the courage lives in that moment when you drive into the lot, clip your faded ID badge to your scrub shirt, grab your lunch bag, and open the car door. You walk toward the ambulance bay and wonder what will happen. Will a scrawny, tattered girl be dumped at the front door, forgetting to breathe from an opiate overdose? Will I tell an old man his wife of 50

years died from a heart attack? Will someone try to bite or kick me? Or will I hold the hand of a young mother as she cradles her dead child?

A few years back, I wrote a bunch of essays for *ACEP News* (the predecessor of this publication). The title of the column was "In the Arena." I chose this because

of a speech given by Theodore Roosevelt at the Sorbonne in 1910:

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face

is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.

Brené talked about this same speech. It has held meaning for many over generations, and it does for you as well. Today, while sad and emotionally taxing, was valiant. Despite our best efforts, some people will not be resuscitated. As we ceased our efforts, this child of God entered Elysian Fields with the sun on her face, surrounded by peace like the scent of gardenias. We did a most difficult job, and the satisfaction comes in doing it well as a team and helping a family begin to accept the unacceptable.

And that's enough for me to open the car door tomorrow and wonder, what will happen today?

I wish you strength, wisdom, tender hands, a caring heart, and the will to be vulnerable.

Be happy.

*David Baehren, MD, FACEP
Emergency physician and author*

ACEP4U | CONTINUED FROM PAGE 10

during the distribution of stimulus funding.

On March 24, ACEP sent a letter to Congress requesting financial support so emergency physicians can treat patients, maintain readiness, and be fully prepared for patient surges. We sent a letter to HHS Sec. Azar in response to the passage of the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which provides \$100 billion to the Public Health and Social Services Emergency Fund. We asked HHS to prioritize funding for frontline health care workers, especially emergency physicians, who are risking their lives combating the virus and are at the highest risk of being exposed to COVID-19 and missing work. On April 3, we sent a follow-up letter to the HHS secretary specifically requesting \$3.6 billion to support emergency physician practices.

When the initial \$30 billion wave of funding was distributed, we disagreed with the methodology and terms because ACEP felt basing distribution on historical Medicare spending was preferential toward hospitals, unfairly penalized emergency medicine practices for caring for underserved populations, and did not prioritize frontline health care practitioners. On April 14, we sent another letter to HHS Sec. Azar reiterating our previous requests and expressing our questions and concerns about the initial \$30 billion wave of funding and the associated terms and conditions that health care practitioners must agree to in order to keep their share of the funds. We continue to track new waves of funding from this "Provider Relief Fund" and are keeping our members apprised of

announcements at www.acep.org/covid19financialsupport. We are in constant contact with HHS to reiterate our concerns.

On April 15, ACEP signed on to an American Medical Association (AMA) letter on issues including direct financial support, temporary Medicare and Medicaid payment changes, liability relief, support for medical students and residents, and small business loans.

Ongoing Concerns

Our work is not done. ACEP remains engaged with legislators as negotiations continue on future COVID-19 response packages to ensure our legislative priorities are addressed, including liability reform, student loan relief for emergency physicians with privately held student loans, hazard pay and other financial assistance, mental health access for frontline physicians and other health care workers responding to the pandemic, and many others.

While we press for COVID-related progress, other factions are trying to slide one-sided, insurer-favored surprise billing legislation into the response packages. ACEP is pushing back on that as hard as possible, explaining that now is not the time to introduce divisive surprise billing legislation into this critical debate about how to responsibly and adequately respond to the pandemic.

Through all the noise, ACEP will continue to be your voice. We will push for what's right. We have never been prouder to represent **you**, our health care heroes on the front lines. +

MS. GRANTHAM is ACEP's communications manager.

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By the Numbers

BICYCLE INJURIES

IN 2018

857

bicyclists were killed

A 6% INCREASE FROM 2017

BICYCLISTS KILLED AVERAGE AGE

47

up from 41 a decade ago

MEN HAVE

8X

the bicycle fatality rate of women

FATAL CRASHES:

75%

occurred in an urban environment

20%

bicyclists had a blood alcohol concentration >.08 g/dL

61% OF BICYCLISTS KILLED IN 2018 were NOT WEARING HELMETS (helmet use was unknown for 24 percent).

NONFATAL HEAD INJURIES REDUCED

42%

by bicycle helmet use

Compiled by Michael J. Mello, MD, professor of emergency medicine, Warren Alpert Medical School of Brown University in Providence, Rhode Island. Visit ACEPNow.com for the sources of these statistics.

COVID Talks

THE CONVERSATION YOU NEVER WANTED TO HAVE

by RITA MANFREDI, MD, FACEP; AND BREANNE JACOBS, MD

There he sat, bolt upright, struggling for every breath, a 65-year-old male with diabetes and heart disease who had every symptom of COVID-19. He needed a ventilator, and there was only one left in the hospital. We quickly got him intubated and sighed relief when we saw he was able to breathe again. But then terror returned: Will this man ever make it off the ventilator to return home or speak to his family again? What were we going to do when another patient needed a ventilator? We didn't have another one to offer.

The looming possibility of rationing supplies and interventions, such as personal protective equipment and ventilators, haunts us all on the front lines. Statistics surrounding the case fatality rate of COVID-19 are particularly grim for our elderly patients. In China, the virus killed 8 percent and 15 percent of patients in the 70–79 and 80+ age ranges, respectively.^{1,2} Half of those who became critically ill (49 percent) died from this disease. Data from the first month of the pandemic in the United States indicate higher ICU admissions than China, with a similar overall case fatality rate of 2 to 3 percent.

Stated plainly, those who become critically ill with this virus have a high mortality rate whether they have a ventilator or not.

There is no more critical time than now to have the kind of conversation that you never wanted to have—the one about setting goals and plans regarding medical care and treatments known as advance care planning. Any physician can have an advance care planning conversation with a patient during a primary care visit or even in the emergency department. Fred Rogers of *Mr. Rogers' Neighborhood* said it best: "Anything human is mentionable, and anything mentionable can be manageable." Being able to talk about death and bad

outcomes makes this whole COVID-19 conversation manageable.

This article provides a simple approach to difficult conversations focusing on end-of-life preferences.

Step 1: Ask the patient or family member to identify their health care proxy—ie, the person or persons who will be the patient's representative when they can no longer speak for themselves. Health care proxies can be spouses, adult children, siblings, or any other designated person. Ensure everyone involved in the patient's care is involved in the discussion to allow re-negotiation whenever circumstances change.³

Step 2: To answer thorny questions, we must know what we value. Take a moment to ask what is most important to the patient. What gives them purpose and meaning in your life? We have had patients tell us being at family gatherings with everyone they love is most important. Others have said their independence is essential. One gentleman most valued working on his antique cars. The responses are varied and very individual. What is important to me might not be so important to you.

Step 3: Knowing your patient's values, you can move on to the most difficult question you never wanted to ask:

"If you are so sick that you are unlikely to recover and would require artificial life support during the time you have left, would you prefer to continue on artificial life support, or would you prefer to allow a natural death?"

Everyone may have a different answer. Some may say, "I prefer nature to take its course. I want to die naturally." Others may say, "Keep me alive at all costs, no matter what. I can't bear the thought of dying." What is most important is that the decision is based on the patient's values, not what their family or even you as the health care worker prefers.

Step 4: Offer a recommendation. Language is everything. Studies indicate that

what listeners understand often differs from what physicians intend. Certain phrases can lead families to feel abandoned and forced to choose between aggressive curative care and giving up.⁴ As emergency physicians, we should propose realistic goals. Here are two examples:

- "Given that you said you most value being at home and hugging your children, I suggest home hospice."
- "I recommend we accept that he will not live much longer and allow him to die peacefully."

Planning for end of life is not a new phenomenon, but the presence of COVID-19 has made all of us a little more aware of our own mortality. None of us want to contract the virus and potentially die from it. However, that may be a reality for many people in this country. We are all hoping for the best outcome—that is, very few people falling ill and dying—but we must be practical and prepare for the worst. ➕

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Table 1: End-of-Life Conversation Suggestions

INSTEAD OF SAYING...	TRY USING THIS LANGUAGE
» "Do you want us to do everything possible?"	» "Would you like us to initiate artificial life support, or would you prefer to allow a natural death?"
	» "This virus is so deadly that no matter what we do given her age and comorbidities it is not clear she'd survive."
	» "What do I need to know in order to do a better job taking care of you?"
» "We'll refrain from extraordinary measures."	» "Your comfort and dignity are my top priority."
» "I'm going to make it so he won't suffer."	» "Can we agree not to escalate care, which will prolong the dying process?"
» "It's time we talk about pulling back."	» "I want to help you live meaningfully in the time you have left."
» "Will you agree to discontinue care?"	» "What can I do to help fulfill your wish to be at home with your family?"
» "I think we should stop aggressive therapy."	» "Let's concentrate on improving your quality of life."

Thank You

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Thinking Inside the Box

INTUBATING SUSPECTED COVID-19 PATIENT WITH PROTECTIVE INTUBATING BOX

by DAVID C. WEECH DO, MBA; AND JOHN ASHURST DO, MSC, FACEP, FACOEP

Editors' Note: This article was accepted on April 6, 2020, and was accurate at that time. Because information about SARS-CoV-2 and COVID-19 is evolving rapidly, please verify these recommendations and information.

Here, we will itemize the process that was implemented in our emergency department for high-risk intubations of patients suspected of having SARS-CoV-2, the virus that causes COVID-19. The principal factors in establishing a formal protocol focused on limiting exposure of health care workers and minimizing unnecessary personal protective equipment (PPE) utilization. The major adaptation is the construction and implementation of a protective intubation box in an attempt to reduce circulated viral aerosolized particles during the intubation process.

PPE

Once it is established that the patient will be intubated, the most experienced physician, registered nurse, and respiratory therapist proceed to don PPE. They proceed in this order: small shoe covers, white coverall zip-up suit if available, boot covers, one set of gloves, Tyvek gown, second set of gloves, N95, bouffant cap, neck cover, and face shield (this may be substituted for a hood). Once PPE is in place, they proceed into a negative pressure room with all necessary medications and equipment for the procedure. This should include post-intubation sedation and pain medications.

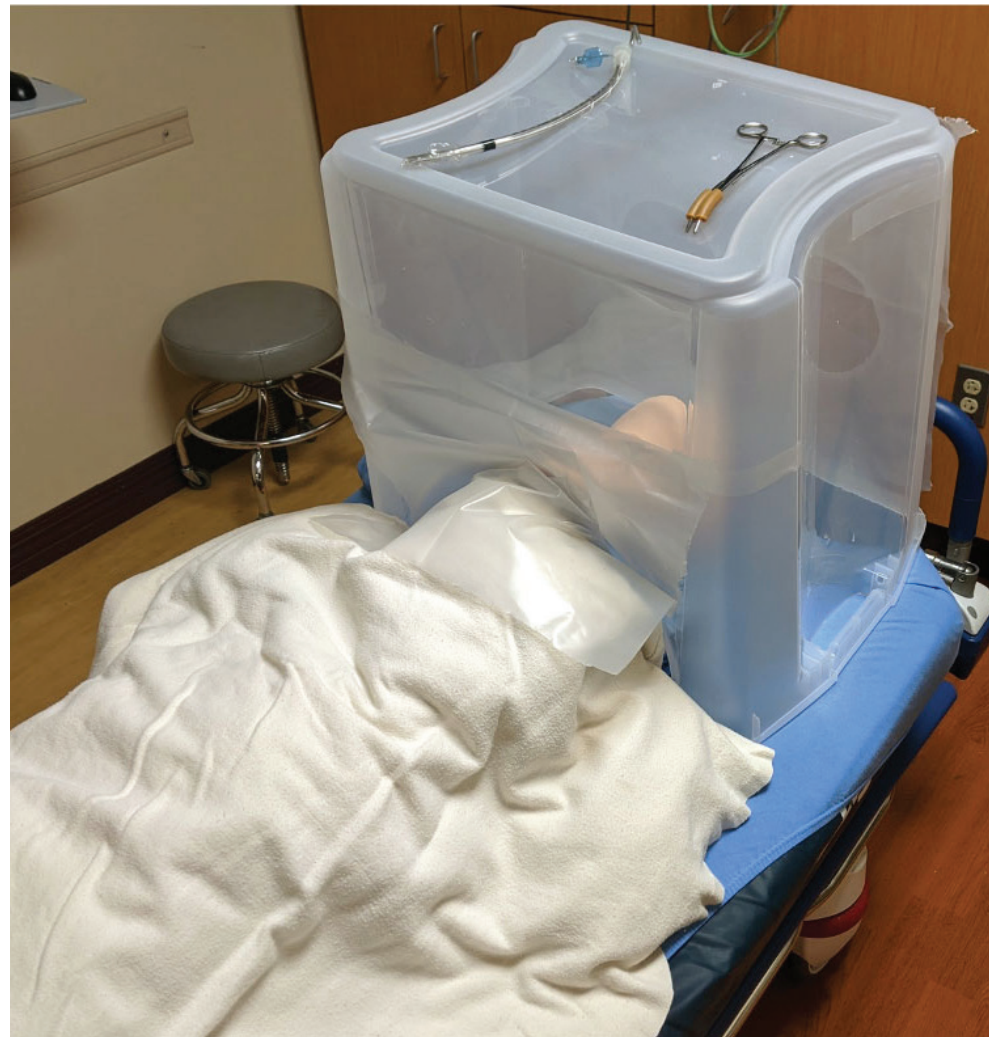
Setup

Ideally, each individual involved with the intubation should have a counterpart of their discipline outside the room as backup. Place the intubation box over the patient prior to the patient moving to a negative pressure room if they are not already there to decrease viral spread (see Figure 1). Intubation tools may be placed next to the patient's head prior to placing the protective intubation box or placed through the access hole at the cephalad portion of the box. Necessary tools include: large forceps with protective cover over teeth to clamp the endotracheal tube after confirmed placement, endotracheal tube and stylet with 10-cc syringe attached, and video laryngoscope.

Procedure

Rapid sequence induction medications are administered. The physician then utilizes the two holes to intubate the patient as routinely done (see Figure 2). Once the tube is placed, the stylet is removed and the tube is then **clamped with the large forceps**, followed by insufflation of the cuff. The options at this point are to remove the intubation box completely as the system is closed or to proceed with the box in place. If the box is kept in place, the nurse passes the ventilator tubing through the caudal aspect of the box and holds the tube in place while a respiratory therapist works through the two primary operator holes to attach the endotracheal tube securing device.

The intubation team then stays in the room for one complete cycle of ambient air, according to local specifications. All necessary related procedures likely to be needed in the near future should be performed at this time to preserve PPE. These may include placement of nasogastric tubes, central lines, arterial lines, chest tubes, etc. The team then moves to the anteroom to doff PPE. This process should be done in a systematic manner: Remove of Tyvek gown and first set of gloves; perform hand hygiene with hand sanitizer; remove the white coverall, boot cover, and second pair of gloves; hand hygiene; place a new set of gloves to remove head covers (including N95); remove of the final pair of gloves; and hand hygiene for a third time. The team may then return to regular duties in the department. Once the patient is trans-



PHOTOS: DAVID WEECH & JOHN ASHURST

FIGURE 1 (LEFT): Simulated COVID-19 patient covered by protective intubation box.



FIGURE 2 (BELOW): Simulated COVID-19 intubation process with protective intubation box.

ported out of the emergency department, the drapes on the intubation box are discarded. The box is then wiped down with appropriate disinfectant to be reused after the time frame specified by the manufacturer of the disinfectant.

Conclusion

While this rigorous process may seem excessive, we suggest it out of recognition of the severity of the situation we face today. The possibility of losing critical health care workers and medical personnel if they are inadvertently or carelessly

exposed to SARS-CoV-2 is far too great to ignore. Emergency departments are among the most critical resources of the health care system. If proper protective measures such as those suggested here are not taken, our ability to save the most lives and to keep the largest number of people healthy will be compromised. ☕

DR. WEECH and **DR. ASHURST** are in the department of emergency medicine at Kingman Regional Medical Center in Kingman, Arizona.

Position, Position, Position

The first thing to appreciate when people come in with severe hypoxia is just how much boosting fraction of inspired oxygen and positioning maneuvers help. The first thing I do is sit them straight up and put a nasal cannula on them, preferentially with a bubble jet humidifier set at 6 L. This is a small bottle of water that fits between the oxygen wall connection and the nasal cannula, and provides humidification. If you avoid intubation, these patients are going to be on oxygen for a long time. If you run high-flow nasal cannula through a standard cannula without humidification, it gets uncomfortable and may injure the mucosa. I then take the nonrebreather mask and put it over that. Part of the reason for the non-rebreather is for covering their mouth (decreasing aerosolization).

The advantage of combining those two is you're now at 21 L minimum if you're at 15 on the nonrebreather, and you can crank that even higher (although the manometer will only tell you it's 15 L) and deliver significantly more oxygen. What I've noticed is some of these patients come in at 50 or 60 percent on the pulse oximeter and you get some up into the high 80s, maybe even 90, with this approach. Then you can take a portable chest X-ray, get your labs drawn, and then turn them over and frequently they come up to 90 percent or higher.

The first paper on awake proning in the emergency department just published in Ac-

ademic Emergency Medicine.¹ Looking at a convenience sample of 50 patients from Lincoln Hospital in the South Bronx, it helped three-quarters patients avoid the need for intubation in the first 24 hours, and two-thirds avoid intubation throughout their hospitalization.

This study and the value of patient positioning maneuvers have now been widely discussed in blog posts and podcasts by Salim Rezaei, MD, FACEP (@REBELEM); Scott Weingart, MD (@emcrit), Josh Farkas, MD (@Pulmcrit), and others. Positioning maneuvers include proning, but also turning patients on their right and left sides and having them sit upright in a chair. Suzanne Bentley, MD, MPH, FACEP, at the Icahn School of Medicine at Mount Sinai in New York City, created a series of proning and positioning maneuvers for COVID-19 patients that is being used at Elmhurst Hospital and other public hospitals in New York City.

These maneuvers are not difficult in skinny patients. Obese patients crunch their lower lungs sitting upright in a stretcher and they often can't tolerate proning at all. Since two-thirds of America qualifies as obese, that's a real problem. To help patients tolerate proning, I tried a pregnancy massage mattress that I found online, which made it much more comfortable for patients to prone. It allowed obese patients who otherwise couldn't to tolerate proning. I subsequently started a charity with my brothers, www.prone2help.org, to

help get these mattresses to health care workers who need them. In the first three weeks, we sent more than 250 cushions to 125 hospitals in 30 states. We are now shipping a new design that has better access for oxygen devices. Clinicians can go to web site and request a cushion; it is sent out at no charge.

Avoid Intubation When Possible

I view every non-intubation as an exponential win, not only for the patient but for the system from a resource perspective. Figuring out who flies and who doesn't with a non-intubation strategy requires trying to assess

In my experience, and from the experience of my co-authors on the awake proning paper, most patients who will do well with proning show significant improvement in respiratory rate, heart rate, and subjective dyspnea quickly. If a patient is following commands and willing to work with you, I think they deserve a chance to avoid intubation. These patients need to be watched very closely, however. Disconnection from oxygen quickly causes desaturation. A high-flow nasal cannula adds much higher flows and augments the work of breathing much more than a standard nasal cannula combined with a face mask; augmentation of the work of breathing requires 40 L/min. and usually higher flows. I think these are much better tolerated than continuous positive airway pressure (CPAP) systems, especially in patients who are awake proning. Clinicians should use proning as part of an

escalating oxygenation strategy, as detailed by many FOAMED sources. Hospitals effectively using a non-ventilation initial strategy round on these patients regularly—every one to two hours—checking respiratory parameters and closely communicating with patients. Patients who feel they are tiring or do not have documented improvements in respiratory rate, heart rate, etc. may need intubation. Proning seems to be very beneficial in many patients, but in our article, intubation was still required in about a third of patients. s where they are on the timeline of illness and to gauge carefully the work of breathing, respiratory rate, heart rate, and inflammatory markers, not just oxygen saturation improvement.

Intubation Tips

If you do have to intubate a patient, be really careful with your personal protective equipment (PPE). I recommend "CRF4G," an acronym for cap, respirator, full face shield, base layer of gloves and gown, and a top layer of gloves and gown. It is best do intubations in a negative pressure room and minimize the number of people who go in the room. When you come out of the patient's room, shed the top layer, wash your base layer gloves, and then go somewhere and get out of the PPE, breathe, and cool down.

I think the best way to intubate COVID-19

CONTINUED on page 18

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patients is to sit them upright and use CPAP before intubation. I put a viral filter and a positive end-expiratory pressure (PEEP) valve on every bag-valve mask. Then push K-roc—which sounds like a radio station but stands for ketamine and rocuronium—at 1.5 mg/kg to 2.0 mg/kg of each drug. Some clinicians recommend succinylcholine instead of rocuronium for faster onset, but at these higher doses, I think the onset times are comparable. Then hold the CPAP mask against the patient’s face for 45 seconds. They will go apneic, but you have CPAP on them. Maintain the PEEP. At 45 seconds, lay them down just as far as necessary to come from above and do your video laryngoscopy. The moment you break that mask seal to intubate them, their pulse oximetry will fall. As many clinicians have noted, COVID pneumonia patients do not seem to get the bradystolic instability common in most rapid sequence intubation (RSI) patients as oxygen falls. I believe this is because they have “acclimatized” in a way to the hypoxia over days before coming in. They do require a ton of sedation, however.

Remember that these patients’ brains are fine—they aren’t encephalopathic from acute hypoxia, hypercarbic (not narcotized), or in shock with poor brain perfusion—so giving them a large dose of ketamine is important. I’ve found ketamine much better than etomidate. You also have to start multiple sedatives to keep them effectively sedated and their

heart rate and blood pressure down. Most patients I encountered required three agents: propofol, fentanyl, and either midazolam or dexmedetomidine. Gauging adequate sedation is really important; there seems to be a high incidence of post-traumatic stress disorder related to patients’ being intubated, and needing mechanical ventilation for a prolonged period of time (five to 10 days is not at all uncommon).

Be very careful of your depth of tube placement. I gave up on using stethoscopes for this, but it’s likely that chest X-rays are going to be seriously delayed if the emergency department and hospital are really busy. When you hit the full pandemic spike, everything stops working or slows to a point that it becomes dysfunctional. You have to anticipate that the system is not going to be able to help you should things go south. Double- and triple-check where you secure the tube.

Post-intubation, have your ventilator ready with an inline CO₂ detector so you can put it right on and you don’t have to bag.

Equipment Notes

Whether to use bougies depends on the device you’re using. At Bellevue, we mostly used hyperangulated GlideScopes, so we didn’t use bougies. However, we did have some tube delivery problems with the hyperangulated GlideScope. When you have a heavier patient with a big tongue, sometimes you have problems with tube delivery with rigid stylets. In

maybe two out of 15 cases, we switched from the GlideScope to direct laryngoscopy because of significant mouth restrictions. Physicians should rotate the hyperangulated blade around the curvature of the tongue and be very conscientious to avoid the secretion pool in the hypopharynx. In general, I think Macintosh shaped video laryngoscopes have easier tube delivery (especially with a bougie), and are best for handling secretions. These conventional shaped blades are now available from all the video laryngoscope manufacturers.

I don’t believe we should fiber-optically intubate COVID-19 patients through the nose. You can’t have patients nasally intubated for more than three days because they’ll get sinusitis, so anyone started on a nasal tube will need to be switched to oral. Awake nasal intubation also exposes you and everybody in the room to much more infectious aerosolization. RSI through the mouth is the only way to go.

Final Word

Remember to go slow and smooth. Go slow. Go smooth. One and done is best accomplished by slowing down and succeeding on first effort. Many patients will desaturate, but this seems to be tolerated more than in our usual RSI patients. Be careful with your introduction of the laryngoscope blade. Work your way slowly from uvula to epiglottis to laryngeal exposure to tube delivery. If you can’t get

the tube on the first try, use an i-gel (or other supraglottic) attached to a viral filter. Bag the patient and switch to plan B. Safety first—be thorough and focused on proper PPE and minimizing operator and other team member exposures.

Acknowledgements: *The real credit for the many lessons I learned and have since shared about COVID belongs to the ED physicians working in New York City for weeks before I arrived, who are still there weeks later, and who will be there for the long haul. I especially want to thank Dr. Nick Caputo and Dr. Reuben Strayer for allowing me to collaborate on their article in Academic Emergency Medicine, as well as “schooling” me about caring for COVID patients.*

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DR. BAKER is emergency department associate director of Our Lady of Lourdes Hospital in Camden, New Jersey.

COVID-19 While Black

The novel coronavirus is hitting minority communities especially hard, highlighting disparities in health care that we need to address

by JENICE BAKER, MD, FACEP

Editors' Note: This article was accepted on April 13, 2020, and was accurate at that time. Because information about SARS-CoV-2 and COVID-19 is evolving rapidly, please verify these recommendations and information.

The state of emergency was issued on March 12, 2020, in New York. All non-essential businesses were forced to work from home or shut down, and schools closed while implementing remote learning plans. As an emergency physician, I knew our duty was the same. Immediately our colleagues from near and far braced, with personal protective equipment (PPE) or not, to



tackle the invisible perpetrator that assaulted lungs and closed eyes indefinitely. They say hindsight is 20/20, but somehow seeing the devastation

in China and Italy was not foresight enough. As of this writing, it is April 2020, and in the United States hot zones, more patients are diagnosed, are admitted, require ventilators, and die every day. This is the new reality in America 2020—but for some, nothing has changed.

Pandemic with an Unequal Toll

Underrepresented minorities have always lacked access to health care and suffered the worst health care outcomes in the United States—and the COVID-19 pandemic is no different. As a black woman from New York City, I have many friends' parents, childhood neighbors, and 40-year-old cousins who have died from COVID-19. The question is why?

Novel coronavirus (SARS-CoV-2) risk factors include obesity, lung disease, diabetes, hypertension, and other immune-compromising diseases. Minorities in the United

States disproportionately have higher rates of all these comorbidities. We were taught this in medical school and residency, so we should be able to better identify and treat these patients, but the reality is we have not. COVID-19 makes that clearer than ever.

Data from Johns Hopkins University reveals that African Americans are three times more likely to contract SARS-CoV-2 and six times more likely to die from COVID-19 than any other racial group.¹

Of course, comorbidities play a role but are not the only factors. Social factors and practitioner bias add to these glaring disparities. Mandating that citizens social distance is great—if you have space to distance. Have you ever lived in “the projects,” high rise apartments with more than five families on each floor of a 10-floor building? How are you able to go outside for fresh air at a distance of six feet? Have you lived with three generations in one household? How can you quarantine from elderly loved ones? Have you had a kidney transplant, like my husband's mother, but have to take public transportation to work every day because you are an essential health care employee? Have you ever had your physical complaints minimized because of false beliefs of how African Americans perceive pain?

If it sounds like I'm getting personal, it's because I am. The practice of medicine is personal, and the relationship between doctor and patient is confidential and protected. Similarly, medical outcomes of increased health disparities across race and increased mortality rates are personal to every friend and family member of mine who has lost a loved one this week.

We Can Do Better

So what can we do about this? Increasing health literacy in the African American community is crucial to helping patients understand and manage their hypertension, diabetes, asthma, and other chronic medi-

cal conditions. This is challenging in part because of the history of medical distrust in the African American community. From Dr. J. Marion Sims's gynecological subjects to the Tuskegee Syphilis Study, our history of medical racism enforces patient bias. This discourages some African Americans from seeking and complying with the care they need. Thus, the terrible cycle continues because the lack of appropriate medical care will lead to more disease and death. Training a higher percentage of diverse physicians is one method to build trust within the black community. Currently African Americans make up 4 percent of U.S. physicians, a number that has remained the same since the 1960s. A diverse physician workforce that mirrors the population cared for by physicians will positively affect patient health literacy and medical compliance within minority communities.

Emergency medicine has the perfect platform to engage apathetic patients who eventually seek care due to the severity of disease or lack of access to primary health care. As emergency departments work within accountable care organizations, the emergency visit can serve as the entry point to primary care, case management, and community resources via electronic health records and meaningful use. Health informatics can help clinical care at the emergency department bedside by giving access to the patient's complete health record. Interoperability of health information can incorporate primary caregivers, specialists, and case managers to better serve patients. Health informatics also gives data that can be analyzed to better serve at-risk health populations via public health initiatives. Public health resources can help address overcrowded housing, access to healthy foods, personal health literacy, and other social determinants of health.

Addressing patient bias may be an obvious method to decrease health disparities; however, practitioner bias may not be so apparent. Practitioner prejudice is based on our person-

al histories and subconscious preferences that affect our medical decision making. Doctors' decisions about cardiac catheterization versus thrombolysis, pain management in renal colic, and offering knee replacements are influenced by physician implicit bias against black patients. Uncovering our own physician bias with implicit association testing is critical. However, more research is needed to incorporate implicit bias training in graduate medical education and develop implicit bias CME for physicians in different stages of their careers that is measurable and sustainable.

The COVID-19 pandemic is highlighting the importance of first responders every day. As emergency physicians, we are on the front lines treating and caring for increasing numbers of COVID-19 patients daily. We are also witnessing the effect of health care disparities, one patient at a time. We can be the first responders to health care disparities as well. The National Institute on Minority Health and Health Disparities has issued special notice of the urgent need for research on the impact of the SARS-CoV-2 pandemic within National Institutes of Health-designated health disparity populations. Emergency medicine is uniquely positioned to spearhead health disparity research.

COVID-19 has been the unexpected game changer in 2020. The economy is at a standstill, financial markets are crashing, health care capacity is bursting at its seams, and people across the world are dying. The pandemic is exacerbating health care disparities. How we handle the next pandemic will be determined by many factors, including how we address racial disparities in health care today. +

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Viral Lament

by DAVID BAEHREN, MD, FACEP

Malaise the herald and conniver
Assured 'tis sleep adrift to woes
Then fire barks the clarion for her

Decree of distance, isolation
Dread of hunger of a breath
Frenzy seizes all the nation

Veils conceal furrowed guise
Ephemeral robes the novel shield
Fissured hands afflict the wise

Covert demons menace me
Roused or visions in the night
Ransom pay for me to see

Frail are taken with precision
Works of scholars insufficient
Humbled by our finite vision

DR. BAEHREN is an emergency physician and author of the novel *Dog in the Road*.



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).

Is POCUS Best for Shoulder Dislocations?

A new study compares it to X-ray

by KEN MILNE, MD

The Case

A 52-year-old male with a history of dyslipidemia presents to the emergency department after sustaining an injury to his left (nondominant) shoulder after colliding with another player during a soccer game. On examination, there is a loss of the normal rounded appearance of the shoulder. You suspect the patient may have a shoulder dislocation. He has no history of shoulder dislocations.

Background

Shoulder dislocations are common in the emergency department. Emergency physicians frequently perform pre- and post-reduction X-rays for these patients. Some previous studies question whether these X-rays are necessary, especially in patients without direct trauma and a history of recurrent dislocations.^{1,2}

Point-of-care ultrasound (POCUS) has been shown in previous studies to be sensitive and specific for diagnosing shoulder dislocations.^{3,4} This application can potentially reduce radiation exposure, cost, and time to diagnosis. However, prior studies on the use of POCUS for shoulder dislocations have used a variety of scanning techniques, and some have utilized as few as two sonographers.⁴

Clinical Question

Should you use POCUS to diagnose shoulder dislocations instead of an X-ray?

Reference: Secko MA, Reardon L, Gottlieb M, et al. Musculoskeletal ultrasonography to diagnose dislocated shoulders: a prospective cohort. *Ann Emerg Med.* 2020;S0196-0644(20)30008-1.

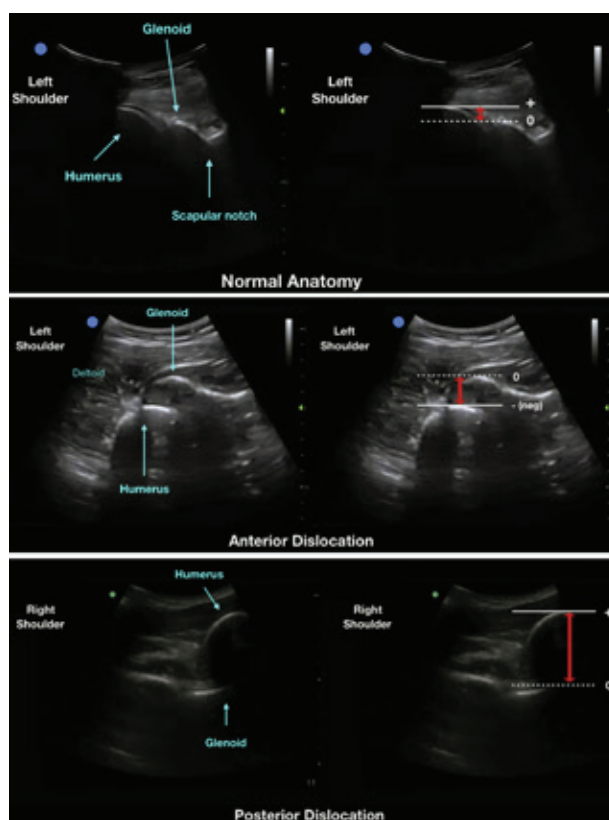
- **Population:** Adults with suspected shoulder dislocations.
- **Exclusion:** Patients with multiple traumatic injuries, decreased level of consciousness, or hemodynamic instability.
- **Intervention:** Pre- and post-reduction POCUS utilizing a posterior approach in which the probe traces along the scapular spine toward the glenohumeral joint (see original article for details).
- **Comparison:** X-rays pre- and post-reduction.
- **Outcomes:**
 - » **Primary Outcome:** Diagnostic accuracy of POCUS for shoulder dislocations.
 - » **Secondary Outcomes:** Presence or absence of fracture, time from triage to POCUS exam compared to X-ray, time from POCUS exam initiation to diagnosis, determination of glenohumeral distance of nondislocated and dislocated shoulders, and sonographer confidence in diagnosis.

Authors' Conclusions

"A posterior approach point-of-care ultrasonographic study is a quick and accurate tool to diagnose dislocated shoulders. Ultrasonography was also able to accurately identify humeral fractures and significantly reduce the time to diagnosis from triage compared with standard radiography."

Key Results

The study enrolled 65 patients with a median age of 40 years. Fifty-eight percent were male, 49 percent had a dislocation (one inferior, two posterior, and 29 anterior), and 32 percent had a



ANN EMERG MED. 2020 FEB 25. DOI: 10.1016/J.ANNEMERGMED.2020.01.008. © ACEP

Ultrasonographic images of the shoulder girdle, using a curvilinear probe demonstrating the normal anatomy of the left glenohumeral joint (A), a left anterior dislocation of the shoulder with humeral head displaced anterior to the glenoid (B), and a right posterior shoulder dislocation with the humerus displaced posterior to the glenoid (C). The adjacent images correspond to the measurement of the glenohumeral distance, indicated by the red arrows.

previous dislocation.

- **Primary Outcome:** Diagnostic accuracy.
 - » Sensitivity, specificity, positive predictive value, and negative predictive value were all 100 percent (95% CI, 87–100).
- **Secondary Outcomes:**
 - » 25/65 (38 percent) had fractures, with 13 Hill-Sachs/Bankart.
 - » Non-Hill-Sachs/Bankart fracture: Sensitivity 92 percent (95% CI, 60–99.6), specificity 100 percent (95% CI, 92–100), positive predictive value 100 percent (95% CI, 68–100), and negative predictive value 98 percent (95% CI, 89–99.9).
 - » POCUS was 43 minutes faster from exam to diagnosis compared to X-ray.
 - » The median glenohumeral distance was –1.83 cm (interquartile range [IQR] –1.98 to –1.41 cm) in anterior dislocations, 0.22 cm (IQR 0.10–0.35 cm) on nondislocated shoulders, and 3.30 cm (IQR 2.59–4.00 cm) in posterior dislocations.
 - » Sonographers' confidence in their POCUS diagnosis was 9.1 of 10 in nondislocated cases and 9.4 of 10 in dislocated cases.

Evidence-Based Medicine Commentary

1. **Convenience Sample:** The study did not recruit consecutive patients but rather a convenience sample when one of six sonographers were available. There is a potential for selection bias with this type of sampling.
2. **Missing Data:** All 32 patients with dislocations were sup-

posed to have had a post-reduction POCUS performed. However, in five cases, this did not happen. The manuscript says it was because the study sonographer was unavailable after the reduction for various reasons without further explanation. This could have introduced some bias and increases our skepticism of the results.

3. **Missed Fractures:** Twenty-five of 65 patients had fractures (38 percent). POCUS identified only 52 percent of those fractures. However, all but one of the missed fractures was a Hill-Sachs deformity or a Bankart lesion. Hill-Sachs and Bankart fractures are generally not relevant to the emergency management of patients with shoulder dislocations. POCUS was 92 percent sensitive (95% CI, 60–99.6%) and 100 percent specific (95% CI, 92–100%) for non-Hill-Sachs/Bankart fractures. This miss rate of 8 percent of non-Hill-Sachs/Bankart fractures is too high for American medicine.
4. **External Validity:** Although the study was technically multicenter because two facilities were involved, one of the two sites enrolled only five patients. In addition, ultrasound fellows or ultrasound fellowship-trained attendings performed the scans. This makes us question the external validity of the study. If the ultrasounds were performed by typical community emergency physicians, we are unsure the same impressive results would be achieved.
5. **Time Saved:** The median time to POCUS from triage was 51 minutes (IQR 36–77) compared to 101 minutes (IQR 73–134) for X-ray. The amount of time saved in the real world would depend on the system in which the physician is working. In a facility with single-physician coverage, the X-ray tech may complete the X-ray before the physician has an opportunity to perform an ultrasound. Last, they did not provide information on total ED length of stay.

Bottom Line

X-rays should continue to be the primary imaging modality of choice for most patients with suspected shoulder dislocations.

Case Resolution

The patient suffered direct trauma to the shoulder during a soccer game, which increased the probability of having a fracture dislocation of the shoulder. An X-ray is obtained and demonstrates an anterior dislocation. The Cunningham technique is used successfully, and the patient is discharged home with appropriate advice and follow-up.

Thank you to Dr. Tony Zitek, research director for the emergency medicine residency program at Kendall Regional Medical Center in Miami, for his help with this review.

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

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BRINGING DATA
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DR. AUGUSTINE is chair of the National Clinical Governance Board of US Acute Care Solutions in Canton, Ohio; clinical professor of emergency medicine at Wright State University in Dayton, Ohio; and vice president of the Emergency Department Benchmarking Alliance.

ED Usage Trends Before COVID-19

And what we may see after the pandemic

by JAMES AUGUSTINE, MD, FACEP

The number of patients seen in U.S. emergency departments has been steadily increasing since World War II. The volume estimates for ED visits are calculated by a number of organizations, and the trends look similar.

But now COVID-19 has happened. It is possible, and even likely, that the significant changes in the American health system that follow the novel coronavirus pandemic will result in very different methods of providing unscheduled and emergency care. And those changes will finally transform the 75-year trend of increasing ED visits.

Three organizations provide estimates of U.S. ED visits. They use different survey techniques and different definitions of what constitutes an emergency department. The 2001–2017 ED visit estimates from the Centers for Disease Control and Prevention (CDC), American Hospital Association (AHA), and Emergency Medicine Network (EMNet) are summarized in Table 1, which are the latest data available for two of the organizations. The AHA has also reported data for the 2018 year.

The inclusion of freestanding emergency departments makes the EMNet data collected through its National Emergency Department Inventory (NEDI)-USA surveys the comprehensive picture of patients seen in all sites in the United States referred to as “emergency departments.” The CDC uses census data and sampling to estimate ED volumes only in full-service, hospital-based emergency departments. It has provided the best trending data since 1992. The AHA does annual comprehensive data gathering from its members, and it has accurate data for all members, with a very stable number of emergency departments. NEDI-USA data incorporate the contribution of freestanding emergency departments to the overall visit numbers.

The CDC statistical survey of ED visits, which is part of the National Hospital Ambulatory Medical Care Survey (NHAMCS), has been a wealth of information for emergency physicians about trends in ED visits. The CDC estimated that 139 million visits took place in 2017. The 10-year volume change was 19 percent, and over the last 20 years, volume increased 46 percent.

The AHA provides a data summary of community hospitals, which it defines as nonfederal, short-term general, and other specialty hospitals. It counted 2017 visits at 142.6 million in 4,678 emergency departments. The 10-year volume change was 20 percent.

The NEDI-USA database is maintained by EMNet at Massachusetts General Hospital in Boston. NEDI-USA contains data on all U.S. emergency departments open since 2001. EMNet results include all known freestanding emergency departments. According to NEDI-USA, there were 5,417 U.S. emergency departments and 158.7 million total U.S. ED visits in 2017. The 10-year volume change was 32 percent.

Bottom line: The trend of emergency departments seeing older, sicker patients, combined with continued growth in retail clinics, telehealth, and other sources of care for non-emergent problems, has yielded a net increase in severity/complexity for full-service emergency departments.

Key Planning Elements

There were approximately 450 ED visits per 1,000 people in 2017. High utilizers continued to include infants, nursing home residents, the homeless, blacks, and people over age 75. Persons over age 65 accounted for 15.8 percent of ED visits, and persons age 75 and older had 605 visits per 1,000 in 2016. A mere 4.3 percent of ED visits classified as nonurgent (the highest rates of these visits were for patients under age 15). Injuries accounted for an estimated 29 percent of ED visits, reflecting an ED population distribution that featured less injury and

Table 1. Emergency Departments and Emergency Visits 2001–2018

YEAR	CDC	NEDI-USA		AHA	
	NHAMCS ESTIMATED ED VISITS (MILLIONS)	TOTAL ED VISITS (MILLIONS)	ED COUNT	TOTAL ED VISITS (MILLIONS)	HOSPITALS REPORTING ED VISITS
2001	107.5	101.1	4,884	105.6	4,663
2002	110.2	107.5	4,892	110	4,660
2003	113.9	113.9	4,900	111.1	4,619
2004	110.2	114.7	4,907	112.6	4,693
2005	115.3	115.5	4,914	114.8	4,885
2006	119.2	117.9	4,930	118.4	4,845
2007	116.8	120.3	4,946	120.8	4,810
2008	123.8	123.6	4,959	123	4,864
2009	136.1	126.9	4,972	127.3	4,821
2010	129.8	131	4,997	127.2	4,807
2011	136.3	135	5,021	129.4	4,655
2012	130.9	137.5	5,066	133.2	4,637
2013	130.4	140.5	5,128	133.6	4,624
2014	141.4	146.1	5,205	136.3	4,594
2015	136.9	151.7	5,281	141.5	4,551
2016	145.6	156	5,381	142.6	4,553
2017	139	158.7	5,417	144.8	4,678
2018				143.5	4,577

more illness.

The leading cause of ED visits for injuries was falls. When viewed through the lens of “presenting complaint,” stomach and abdominal pain were the most common in 2017, accounting for around 9 percent of visits. Chest pain was next highest, at 5 percent. There continues to be an increasing presence of mental disorders noted in ED patients.

There is an ongoing increase in use of diagnostic tools in emergency departments, especially electrocardiograms. Use of computed tomography scanning appears to have plateaued, but the use of magnetic resonance imaging and other special imaging procedures (such as ultrasound) are increasing.

The ED Benchmarking Alliance performs a data survey that reports on ED performance measures. That data survey finds that roughly 69 percent of hospital inpatients are processed through the emergency department. This clearly demonstrates the emergency department has become the front door to the hospital.

Planning for the Future

The demand for emergency services has continued to rise, especially for patients who are older, sicker, and in need of high-level diagnostic services and hospital admission. And the current challenges of the coronavirus pandemic put the emergency department clearly in the spotlight as the responsible entity for crisis care.

However, the long-term volume growth in American emergency departments may be tempered by the use of telemedicine services that will grow tremendously in the coming months.

Regardless, emergency physicians must trumpet the emergency department’s value to hospital and community leaders so the improvements needed to deliver care in a safe and effective manner will be prioritized. ➕

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SEE THE DATA YOURSELF

All state-specific and national summary NEDI-USA data for 2017 can be found at www.emnet-usa.org/research/studies/nedi/nedi2017.

Based on NEDI-USA data, the current locations of all U.S. emergency departments can be found in the free smartphone app EMNet findERNOW. You can also use this app to find specific information about all U.S. emergency departments, including the specifications as a verified trauma or burn center.



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

Editors' Note: This article was accepted on April 6, 2020, and was accurate at that time. Because information about SARS-CoV-2 and COVID-19 is evolving rapidly, please verify these recommendations and information.



COVID-19 in Kids

Question 1: What is the incidence of co-infection in children who are positive for COVID-19?

As of writing this column, the data are currently very limited regarding this topic as, overall, children appear to demonstrate milder signs of infection. A study by Xia et al retrospectively evaluated 20 hospitalized children in Wuhan Children's Hospital in China over a 17-day period.¹ Patient ages ranged from 1 day to 14 years, with a median age of 2 years. According to the authors, the total number of confirmed COVID-19 cases at this time in China was 37,251. The exact reasons for hospitalization of these children were not mentioned. There was a confirmed COVID-19 close contact in 13 of 20 (65 percent) of these pediatric hospitalized cases. Co-infection with another pathogen—either viral or bacterial—occurred in 8 of 20 (40 percent) of patients. The pathogens included cytomegalovirus (n=1), influenza A (n=1), influenza B (n=2), mycoplasma (n=4), and respiratory syncytial virus (n=1); one patient was, therefore, positive for COVID-19 and two additional pathogens. Importantly, most of the children did not demonstrate pulmonary physical exam findings (approximately 75 percent), suggesting that children are potential unrecognized carriers of this pathogen.

Regarding co-infection with coronavirus—while not specific to COVID-19—a study in Nepal by Uddin et al found a co-infection rate of 46 percent (137 of 296 patients). This was a prospective surveillance study over three years in children from birth to 6 months of age. In that population, the most common pathogens of co-infection were rhinovirus, bocavirus, and respiratory syncytial virus.

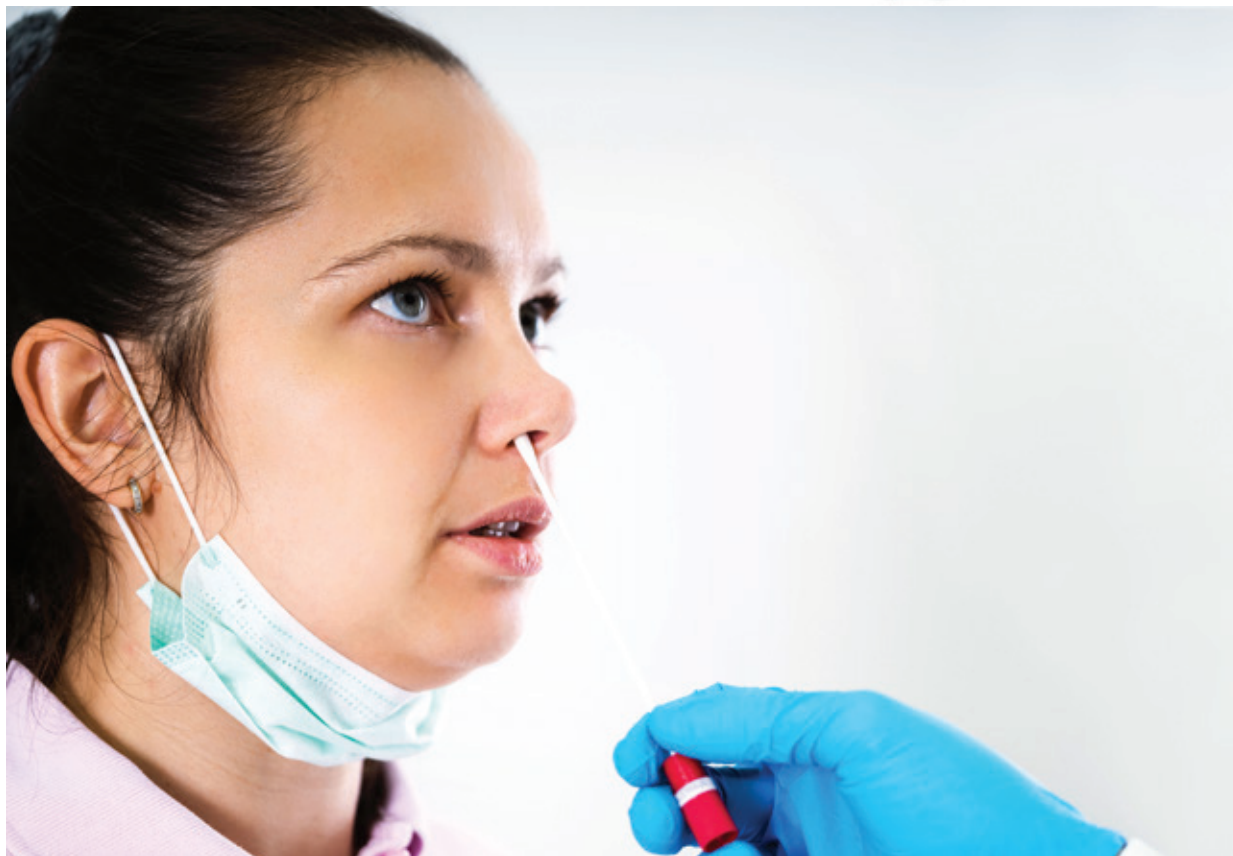
While it is reassuring that children appear to be less symptomatic than adults in COVID-19 infections, it is important to recognize that co-infections currently appear to be common.

Conclusion

While the data are very limited—especially in COVID-19-positive patients—it is important to recognize that co-infection does not appear to be uncommon and children may be minimally symptomatic with the disease. The best current co-infection estimate in hospitalized children is 40 percent.

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Ibuprofen for COVID-19

Question 2: Are there any studies on the harm of using ibuprofen in children with COVID-19?

In early March, a southwest French infectious disease physician was reported to have made comments about an association between ibuprofen and serious symptoms in children who were COVID-19 positive.¹ While these patients reportedly developed serious side effects, the outcomes of these anecdotal cases are unknown, and as of March 27, the youngest COVID-19 death in France was a 16-year-old patient, according to the *New York Post*. Social media reports spread quickly, and on March 14, a French health minister commented, saying “taking anti-inflammatory drugs (ibuprofen, cortisone...) could be an aggravating factor for the infection. If you have a fever, take paracetamol [acetaminophen].”¹ Shortly after, the World Health Organization made a supportive statement, which it soon retracted.²

At the end of the day, the answer is no. Currently, no published medical literature demonstrates worsening outcomes from ibuprofen in COVID-19-positive pediatric patients.

For any infectious disease that causes a fever, children should be fever-free without medication for at least 24 hours before returning to day care, school, or social activities.

Conclusion

There is currently no published medical literature to suggest a worsening outcome in COVID-19-positive pediatric patients who use ibuprofen.

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