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CLINICAL **cme**

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Why is the Waiting Room Still Empty? Perspectives from a Pediatric Urgent Care Physician

■ AMANDA NEDVED, MD, FAAP

In February 2020, the first U.S. case of community-spread COVID-19 was identified at a pediatric urgent care center in Seattle, reinforcing the fact that UC is on the frontlines of healthcare. Between March and May 2020, the majority of healthcare services saw a significant downturn in volumes as patients quarantined and businesses shutdown. But as the number of domestic COVID-19 cases increased, many general urgent care centers saw unprecedented volume surges that continued throughout 2020.

Pediatrics, on the other hand, has struggled. And now, more than 12 months since the dawn of this pandemic, pediatric acute care is still searching for its place.

By April 2020, the eerie silence of empty queues and restless staff captured the unexpected challenge pediatric providers would face during this pandemic. The combination of social distancing and stay-at-home orders diminished the demand for children to be evaluated in cases of routine illness. Even when acute care was needed, families often delayed seeking pediatric care for fear of exposure.

Most urgent care centers pivoted to become community testing hubs; however, the demand for testing children has not been as great. While many adults are gradually returning to work, many schools, daycares, camps, and sports activities have remained closed, limiting both the spread of disease but also the need for testing for clearance to return.

Pediatric testing has also been more complicated procedurally. Young children often cannot self-swab or may need to be restrained. Car seat-bound children make drive-thru testing difficult.

Many pediatric-specialized UCCs rapidly implemented or

increased the use of telemedicine to provide virtual care for children whose caregivers were hesitant to seek in-person care. Children's Hospital of Wisconsin UCCs, for example, demonstrated a 10-fold increase in daily telemedicine visits during the initial peak. Use of telemedicine has its limitations in pediatrics, however, because almost half of pediatric acute care visits are for respiratory complaints where basic video telemedicine is lacking in the ability to auscultate the lungs, take vital signs, or look in the ears.

Pediatric UCCs have adapted their practices in a number of ways to serve patients and remain financially viable. To minimize risk for families who seek in-person care, some pediatric-specialized UCCs have separated patients with respiratory symptoms to designated areas of the building and assigned dedicated staff for these patients for the duration of a shift. In an effort to minimize losses and risk to staff, some multi-location urgent care operators have closed some locations and furloughed staff. Many pediatric UCCs temporarily adjusted their age restrictions to reduce the burden of the adult care centers. Pediatric nurse practitioners who are typically restricted to caring for patients <21 years of age have been granted exemptions in most states to care for adults as part of crisis forgiveness. At Children's Mercy Kansas City, the UCCs have shifted their hours to complement primary care availability and to limit exposure risk for patients with chronic diseases who require care in subspecialty clinics, which commonly share spaces with primary care.

In addition to managing the loss of the core respiratory patients and adapting to the challenges of infection control, pediatric providers were additionally tasked with recognizing the developing entity known as the multisystem inflammatory syndrome in children (MIS-C). This syndrome is a rare inflammatory cascade associated with COVID-19 in children and young adults. Pediatric-specialized UCCs capable of laboratory testing quickly developed protocols to screen febrile children



Amanda Nedved, MD is Director of Quality Improvement, Division of Urgent Care, Children's Mercy Kansas City and Assistant Clinical Professor, UMKC School of Medicine, KU School of Medicine.

URGENT PERSPECTIVES

for MIS-C using onsite or local STAT labs to evaluate for key biomarkers such as C-reactive protein (CRP), B-type natriuretic peptide, and ferritin, in addition to routine blood counts and chemistry tests.

Additional trends have been observed unexpectedly among the presentations at pediatric UCCs during the pandemic. Many pediatric-specialized UCCs reported increases in injury management and patient acuity as a result of the apprehension to seek hospital-based care. Delays in care were evidenced by the increased rate of perforated appendicitis cases reported nationally.

Families were not only delaying care for acute illnesses and injuries; they were also delaying routine exams and vaccinations, making threats of measles and varicella outbreaks more likely. With the interruption of normal life and continued closures of schools, camps, and daycares, there have been reports of greater numbers of child abuse and neglect presenting to acute care settings.

Behavioral health problems have also become more prevalent during this pandemic. Social anxiety, physical separation, loss of family members, and lack of connection are all factors contributing to greater behavioral health needs, including suicidality. Pediatric-specialized UCCs have played an increasingly

important role in recognizing major depression and suicidal ideation among adolescents and preteens who have felt isolated during the pandemic. Many pediatric-specialized UCCs were already performing mental health screens on patients >12 years of age prior to the pandemic. Now, however, screening for mental health issues has become a vital part of the acute care visit in these age groups.

Being a frontline provider during this pandemic has been neither comfortable nor convenient. Yet, pediatric urgent care providers have remained available to care for acutely ill and injured children when a medical home was not available and emergency care was undesirable. Many primary care physicians shut their doors in this crisis. Even 12 months later, many still offer only limited (if any) in-person acute care. Pediatric urgent care has persevered and proven to be an adaptable, resilient frontline solution for the safe and effective care of children.

Many families have discovered pediatric-specialized urgent care for the first time during this crisis—a promising sign for the role urgent care centers will play in the acute care landscape for years to come. While we never hope for illness or injury to strike, we do hope that a return to normalcy will mean a return of the pediatric patient to urgent care so we have more frequent opportunities to provide the community acute care that defines us. ■



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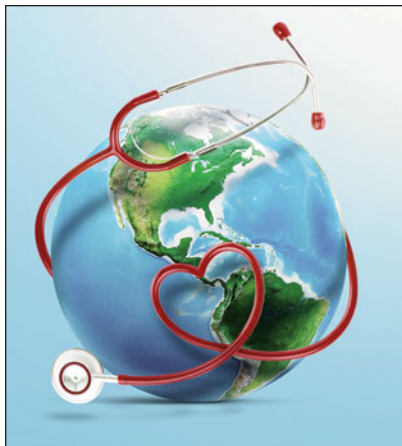
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CLINICAL

13 Pretravel Consultations in the Urgent Care Setting

The world is (largely) opening up again to tourism, but the same risks that existed before the time of COVID-19 are still a concern. Patients planning a trip are likely to need counseling as to what vaccines they'll need, as well as some awareness of environmental concerns specific to their destination.

Benjamin Silverberg, MD, MSc, FAAFP, FCUCM

CLINICAL



22 Outpatient Management of COVID-19 in the Urgent Care Clinic: Administering Monoclonal Antibodies

Use of monoclonal antibodies to treat patients who have COVID-19 could be a game changer—for patients' prospects when they're infected, but also for urgent care centers that could establish themselves as treatment centers.

Lindsey Fish, MD

ORIGINAL RESEARCH

26 The Implementation of Nurse-Initiated Ankle and Foot X-rays in an Urgent Care Setting

Nurse-initiated protocols have been beneficial in emergency departments. Could the same hold true in urgent care centers? A team of researchers sought an answer to this question in the context of nurse-initiated x-rays for ankle and foot injuries.

*Allison Usset Gilles, DNP, FNP-C, RN;
Der Xiong, DNP, FNP-C, RN; and
Jenny A. Prochnow, DNP, MBA, RN*

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35 Understanding the Benefits and Risks of Direct-to-Consumer Testing for Urgent Care

Urgent care centers are well equipped to do blood draws and to collect other specimens for testing. So how could direct-to-consumer testing kits be helpful to your practice, and not a threat to your livelihood?

Alan A. Ayers, MBA, MAcc

CASE REPORT

41 A 60-year old Male with Dyspnea and Hypoxemia at the Start of a Global Pandemic

The throes of COVID-19 panic made diagnosing respiratory complaints more complicated than ever. Patients were on edge, and providers had a new deadly possible diagnosis to consider.

Louis Costanzo, MD, MBA

NEXT MONTH IN JUCM

While fishhook injuries are common in urgent care centers located in or near recreation areas, especially during vacation season, their management requires a thorough understanding of the mechanism of injury, the type of hook involved, and proper technique for removal. Learn this and more in the June issue of JUCM.

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JUCM CONTRIBUTORS

For most of 2020—and 2021, to date—the world hasn't been fit for travel, thanks to the COVID-19 pandemic. Now that it looks like those skies are starting to clear, it's time to help patients ensure *they're* good to go (literally).

Pretravel Consultations in the Urgent Care Setting (page 13), by **Benjamin Silverberg, MD, MSc, FAAFP, FCUCM** should be required reading for all urgent care providers and operators who offer counseling services for patients who are eager to embark on a journey. Whether the concern is ensuring the proper vaccines are in order, what type of environmental hazards may await at the destination, or the advisability of a pregnant patient taking a long flight, you will need to be well-informed to ask the right questions, and to provide the right answers to the patient's queries.

Dr. Silverberg is an assistant professor in the Departments of Emergency Medicine and Family Medicine at West Virginia University, and the medical director of the Physician Assistant training program at West Virginia University. He has also received a Certificate in Travel Health from the International Society of Travel Medicine.

One factor that has made the pandemic so daunting is the apparent absence of a true remedy. However, the recognition that monoclonal antibodies could make a positive difference offers some hope. As discussed in Outpatient Management of COVID-19 in the Urgent Care Clinic: Administering Monoclonal Antibodies, by **Lindsey Fish, MD**, this could be good news not only for a population at risk, but for the urgent care operator as an opportunity to broaden the array of services patients receive in an urgent care center. As Dr. Fish points out, the ability to administer MOBs on site could move treatment of the virus from an inpatient to an outpatient model for which urgent care centers could be ideally suited. The article starts on page 22.

Dr. Fish is medical director at Denver Health's Peña Southwest Urgent Care Clinic, assistant professor of Medicine at the University of Colorado School of Medicine, and a contributing editor for *JUCM*.

Another challenge, especially early on in the pandemic, has been distinguishing COVID-19 from more typical (and less threatening) respiratory complaints. That conundrum is at the center of A 60-year old Male with Dyspnea and Hypoxemia at the Start of a Global Pandemic (page 41), by **Louis Costanzo, MD, MBA**, an internal medicine resident physician at SUNY Downstate Health Sciences University.

This issue's original research article also takes a look at a possible step forward in how urgent care centers operate, both in terms of efficiency and the patient experience. The Implementation of Nurse-Initiated Ankle and Foot X-rays in an Urgent Care Setting (page 26) reveals data indicating that nurse-initiated

x-rays for ankle and foot injuries can reduce patients' length of stay while improving staff satisfaction. We appreciate **Allison Usset Gilles, DNP, FNP-C, RN**, a nurse practitioner at Allina Urgent Care; **Der Xiong, DNP, FNP-C, RN**, a nurse practitioner at CVS Pharmacy; and **Jenny A. Prochnow, DNP, MBA, RN**, associate professor, Winona State University allowing us the opportunity to share it with you.

Just as that article looks into the question of whether a nurse's capabilities could be put to broader use in the urgent care setting, Understanding the Benefits and Risks of Direct-to-Consumer Testing for Urgent Care (page 35) examines whether urgent care could turn a potential threat into an asset and a competitive advantage. As president of strategic initiatives at Experity, **Alan A. Ayers, MBA, MAcc** is an ideal person to tackle this issue.

Regardless of what services are rendered, at the end of the day—every day, in the course of operating an urgent care center—payers have to be billed so the operation can continue to function and provide care. Accurate, compliant coding to ensure that reimbursements are maximized is a challenge on a good day so when codes, rules, or guidelines change after years of stability it can be jarring. That's the situation we're in currently, though, as explained by **Monte Sandler** in What the #^&* Is Going on with E/M Code Levels? The article, which starts on page 53, explains how even coding systems are being deeply affected by COVID-19 and, more importantly, offers insights into how you can manage these changes to your advantage.

Also in this issue, Abstracts in Urgent Care (page 38) highlights new urgent care-relevant pediatric neurology articles from across the medical publishing landscape. **Kelsey Riggs, MS3** and **Emily Montgomery, MD** explain key messages from papers on the neurological effects of COVID-19; melatonin for children with postconcussive symptoms; pediatric sports-related concussions; and acute migraine in children and adolescents. Ms. Riggs is a third-year student at the University of Kansas School of Medicine. Dr. Montgomery practices at Children's Mercy Hospital in Kansas City, MO and is clinical assistant professor of pediatrics, University of Missouri-Kansas City School of Medicine and Clinical Assistant Professor of Pediatrics, University of Kansas School of Medicine.

Finally, if you got this far into the issue without reading Why is the Waiting Room Still Empty? Perspectives from a Pediatric Urgent Care Physician by **Amanda Nedved, MD**, do yourself a favor and turn back to page 1. Dr. Nedved, who is director of quality improvement in the Division of Urgent Care, Children's Mercy Kansas City and Assistant Clinical Professor, UMKC School of Medicine, KU School of Medicine offers thoughtful insights into how the COVID-19 pandemic has affected pediatric urgent care practices, and younger patients in general. ■

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A Changing of the Guard—but Not Our Commitment

■ JOSEPH CHOW, MD

To say this past year has been “challenging” would be understating the magnitude of this once-in-a-century event. The pandemic has challenged us as an industry and has left no one unaffected. In the midst of these historic events, urgent care has been able to stand proud, when comfort and stability were needed most in healthcare. Most centers stayed open, providing safe, quick, and quality care when our patients needed it the most. Most provided needed COVID-19 testing; all kept staff and patients safe.

The work you have all done is truly historic, and certainly the term *healthcare heroes* applies to you all.

The Urgent Care Association was here for you, as well. During the pandemic, we provided our members with education on the virus, created a Listserv forum so we could all communicate and learn from each other, and maintained a sense of community when there was no physical community. All the while, we kept up our commitment to conduct essential advocacy work at the federal and state levels.

With the vaccine rollout ongoing, we are starting to feel optimistic about the future once again. More than ever, the urgent care industry will need to be a trusted part of the community. We will continue to provide the safest environment and access to healthcare—no matter what other challenge comes our way.

UCA will also be there for you to provide education, advocacy, transparent updates, and community; this is what sets us apart. We have also strengthened our ties with the College of Urgent Care Medicine, better reflecting the day-to-day partnerships of business and medicine in urgent cares everywhere.

We’ve all heard the phrase *It takes a village*. There have been so many contributors to the association whom we’d like to recognize. Dr. Richard Park, founder of CityMD and our Past

President, rotates off the UCA Board of Directors this year. Dr. Park has been part of the Board for 5 years. His laser focus on “How do we provide value for members, how do we make our conference world class, and how do we support our centers with accreditation?” has been a driving force for even longer than that. Dr. Park will be missed, but his influence will live on, and the ethos he instilled will always resonate within UCA.

COVID-19 robbed us of the opportunity to have an in-person conference this past year, meaning many of you have not had the pleasure of meeting our outgoing president, Shaun Ginter. Be assured that Shaun has been working just as hard (if not harder) to keep the association focused on what the members needed during the pandemic. Shaun has spearheaded advocacy for urgent care through UCA and UCAPAC, kept our board on track during this pandemic, and continues to be active in our regional chapters. We are pleased to have Shaun remain on the board as Immediate Past President to help guide the association in the new phase (and hopefully out of) of the pandemic.

This is the time to acknowledge the difficulty COVID-19 has caused in our industry and in our personal lives. It is also the time to turn the page. We must stand proud of our industry, continue to provide the best in convenient and quality care, and be bold in what we do to provide this for our patients and community.

I am honored to be serving as your President in such an exciting time. I welcome you to join us at our Annual Convention this October in New Orleans. I welcome you to join our Listserv communities, to read and contribute to the *Journal of Urgent Care Medicine*, UCAccess, UrgentCaring, and Urgent Updates, to become advocates for the industry through our PAC, and to stand proud of our specialty and our industry.



Joseph Chow, MD is Group President, TeamHealth Ambulatory Care and President of the Urgent Care Association.

A handwritten signature in black ink that reads "Joseph Chow, MD".

Joseph Chow, MD
President, UCA



CONTINUING MEDICAL EDUCATION

Release Date: May 1, 2021
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This continuing medical education (CME) program is intended for urgent care physicians, primary-care physicians, resident physicians, nurse-practitioners, and physician assistants currently practicing, or seeking proficiency in, urgent care medicine.

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1. To provide best practice recommendations for the diagnosis and treatment of common conditions seen in urgent care
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4. To support content and recommendations with evidence and literature references rather than personal opinion

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Member reported no financial interest relevant to this activity.
- **Alan A. Ayers, MBA, MACC**
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Pretravel Consultations in the Urgent Care Setting (page 13)

1. What percentage of travelers need medical attention during their trip?

- a. 1%
- b. 2%
- c. 8%
- d. 75%

2. There are three categories of travel-related vaccines. Those categories are:

- a. Required, recommended, and routine
- b. Required, recommended, and contraindicated
- c. Required, recommended, and as needed
- d. It depends on current conditions in the destination region

3. While rules may vary from one airline to the next, from a medical perspective pregnant patients should avoid air travel:

- a. In the first trimester
- b. >34 weeks gestation
- c. >28 weeks gestation
- d. With complicating factors like gestational diabetes, at all stages of pregnancy

Understanding the Benefits and Risks of Direct-to-Consumer Testing for Urgent Care (page 35)

1. As of 2020, the direct-to-consumer (DTC) testing market had grown to a market value of:

- a. \$173.22 million
- b. \$211.08 million
- c. \$254.59 million
- d. \$352.56 million

2. A patient may prefer DTC testing vs going to a testing site because of:

- a. Confidentiality
- b. Convenience
- c. Lower cost
- d. All of the above

3. Which of the following is considered a key advantage urgent care centers have over other testing locations?

- a. Urgent care centers, generally, are better equipped to collect a wider variety of samples
- b. Urgent care providers have more clinical expertise
- c. Urgent care is a more patient-friendly environment than other testing sites
- d. Most urgent care centers take insurance

A 60-year old Male with Dyspnea and Hypoxemia at the Start of a Global Pandemic (page 41)

1. Providers should consider viral testing and encourage self-isolation until test results are received:

- a. For all patients exhibiting signs or symptoms associated with COVID-19
- b. For patients with vomiting and diarrhea
- c. With exposure to a close contact with COVID-19
- d. All of the above

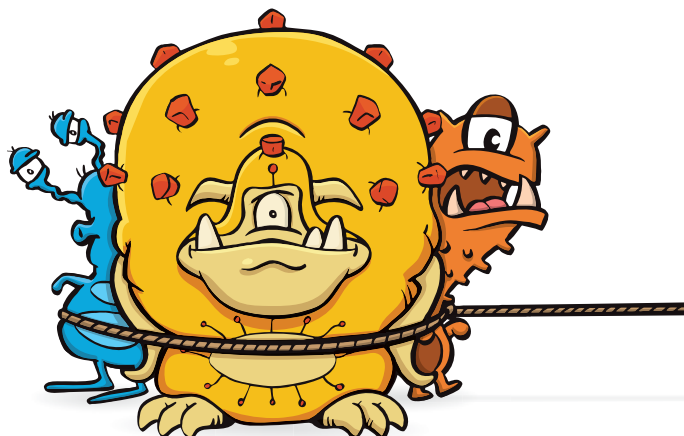
2. What percentage of patients with COVID-19 will exhibit signs of severe illness and may require hospitalization?

- a. 8%
- b. 20%
- c. 38%
- d. 52%

3. Which of the following is true?

- a. Everyone with COVID-19 is symptomatic
- b. It is common for symptoms to not start until 3 weeks after exposure
- c. COVID-19 may cause severe arthralgias and myalgias, but is never fatal
- d. Symptoms of COVID-19 will generally appear within 11.5 days in those with an identifiable exposure

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Pretravel Consultations in the Urgent Care Setting

Urgent message: A pretravel consultation assesses the patient's fitness for travel in the context of anticipated risks associated with their journey. This individualized counseling takes into account not just age or destination, but also general health and other factors such as past travel experience. With appropriate training and preparation, these assessments can easily be performed in the urgent care setting.

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Introduction

People travel for vacation and tourism, school or work, for adventure, and for volunteer and religious purposes. Of those who travel internationally, 36% seek advice from a medical provider; among those, approximately 40% receive counseling from someone other than their primary medical provider. Health risks abroad are not limited to infectious diseases; indeed, the journey itself can pose risk (eg, DVT, unsafe vehicles). Unclean food and water, environmental exposures (eg, altitude, heat/cold, pollution, animals), and other stressors (eg, unsafe sexual contact, culture shock) can sour a traveler's experience. Unfortunately, upwards of 8% of international travelers need medical attention either

A Word About the COVID-19 Pandemic

The ever-changing issue of the COVID-19 pandemic is outside the purview of this article. However, it should be noted that at this time both domestic and international travel is beginning to "open up" more for Americans. Urgent care patients should be encouraged to receive the COVID-19 vaccine, and counseled to investigate current requirements for vaccination status, quarantine, and testing related to the virus before traveling to any destination in the U.S. or abroad.



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during or after their trip.^{1,2} As such, it is important that urgent care providers are able to counsel travelers on the risks they may face abroad and how to reduce the chance of succumbing to illness, injury, or death.

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Table 1. Vaccines for International Travelers from the United States

		Trade name	Approved for
Required	Yellow fever	YF-Vax*	≥9 mo
	Meningococcus ACWY ^a	Menactra, Menveo	9 mo-55 y (Menveo approved for 2 mo-55 y)
	Polio	Ipol	≥6 wk
Recommended	Typhoid	Typhim Vi, Vivotif*	≥6 y (Typhim Vi approved for ≥2 y)
	Rabies	RabAvert, Imovax	All ages
	Cholera	Vaxchora*	18-64 y
	Japanese Encephalitis	Ixiaro	≥ 2 mo
Routine	Hepatitis A ^b	Havrix, Vaqta	≥1 y
	Hepatitis B ^b	Engerix-B, Recombivax HB, Heplisav-B	All ages (Heplisav-B approved for >18 y only)
	Influenza	Fluzone, Flublok, Afluria, Flud, Fluairix, Flucelvax, FluLaval, FluMist*	Varies by vaccine
	Measles, mumps, rubella	M-M-R II*	≥1 y
	Pneumococcus	Prevnar 13, Pneumovax 23	≥2 y (Prevnar approved for ≥6 wk)
	Tetanus, diphtheria, pertussis	Adacel, Boostrix	≥10 y (Adacel approved for 10-64 y only)
	Varicella ^c	Varivax*	≥1 y

*Live vaccine; ^a Meningitis B vaccine (Bexsero, Trumenba) approved for 10-25 y; ^b Combined Hepatitis A and Hepatitis B vaccine (Twinrix) approved for ≥18 y; ^c Herpes zoster vaccine (Shingrix) approved for ≥50 y. Adapted from: www.cdc.gov/vaccines/terms/usvaccines.html and wwwnc.cdc.gov/travel/yellowbook/2020/appendices/appendix-b-travelvaccine-summary-table. Accessed April 12, 2021.

Background

A travel medicine consultation assesses the client's fitness for travel in the context of the anticipated risks associated with their journey.³ This requires an individualized approach. For example, by age alone, a 61-year-old traveler hiking the Inca Trail in Peru might be expected to have a more difficult experience than a 21-year-old—unless the 61-year-old is a marathon runner and the 21-year-old has uncontrolled asthma, in which case your concern for their welfare will likely shift. Your role as a consultant is to give the traveler the appropriate and necessary immunizations, medications, and knowledge to prepare them to go abroad safely.

Intake Forms

Ideally, pretravel consultations are scheduled 4-6 weeks prior to departure. Nevertheless, even last-minute consultations can be helpful. Either way, they require preparation. An intake form—preferably completed and reviewed in advance of the actual clinical visit—should review key elements of the traveler's own health: age,

gender, chronic medical conditions, allergies, medications, immunization history, prior travel experience, and special conditions or circumstances (eg, pregnancy, breastfeeding, immune-compromise, physical disability). This form should also query the proposed itinerary: destination country/countries (in chronologic order), duration abroad, reason for travel (eg, business or leisure), travel "style" (eg, visiting traditional tourist sites or going off the beaten path, types and quality of accommodations, modes of transportation), and any anticipated risky activities (eg, high altitude, contact with animals).

Vaccinations

It is not uncommon for travelers to forget to bring documentation of their past immunizations, or to be uncertain of what they have received. With regard to travel, there are three categories of vaccines: required, recommended, and routine (see **Table 1**).¹ Live vaccines are not recommended for immunocompromised patients or pregnant women. Some vaccines have oral formulations (eg, Vivotif, Vaxchora). Depending on the traveler's

itinerary, only yellow fever, meningitis, and/or polio vaccines may be required for entry into (or exit from) a foreign country. Typically, though, vaccination against typhoid, hepatitis A, and tetanus are also recommended. The information in **Table 1** is current as of April 2020 and should serve as a starting point for your reference.

Yellow Fever (YF)

Potentially fatal mosquito-borne virus

The yellow fever vaccine is probably one of the more complicated topics you'll cover with the traveler. The risk of side effects increases with age (>60 years old), and it's not always easy to balance out the risk of vaccination vs the risk of getting infected. Typically, African countries require vaccination for border entry, whereas Latin American ones just recommend it. A 2016 shortage of YF Vax in the United States necessitated importation of Stamaril from France. In April 2021, however, Sanofi Pasteur announced that YF Vax would again be available to authorized YF Vax providers in the U.S. *Only designated yellow fever vaccination centers can administer the vaccine.* The patient then receives a literal yellow card with documentation of their vaccination and an official stamp. Though this card can be replaced if lost, a valid, physical card is necessary for travel—a photocopy or scanned image will not suffice. As per the CDC and ACIP, a single dose of yellow fever vaccine is thought to provide lifelong coverage, with some exceptions (eg, HIV-positive individuals). There is, however, a chance that an immigration official will not know (or honor) this. In general, while revaccination typically is not necessary, it might be “required” with certain international aid organizations. If the patient tolerated the shot the first time, it should be fine to readminister. Immunity starts developing within 10 days of vaccination and usually is complete within 1 month. Contraindications to vaccination include infants younger than 6 months of age and immunosuppressed travelers. These individuals will need a signed and stamped waiver. Since this paper affords no actual medical protection, counseling against travel is, of course, an option.

Hepatitis A

Fecal/oral-transmitted virus

Younger travelers are likely to have already received vaccination against hepatitis A, but older travelers may not have. Since the vaccine affords lifelong protection, checking titers is unnecessary if vaccination dates can be confirmed. If not, repeating the series may be appropriate. This vaccine is strongly recommended for travel to most developing countries and even some domestic regions due to disease outbreaks (eg, Central Appalachia).

A common error in administration is forgetting that Twinrix, which confers protection against hepatitis A and B, contains a pediatric dose of hepatitis A (equivalent to half that of an adult dose). Thus, to complete the hepatitis A series, either a total of three doses of Twinrix or two doses of Havrix or Vaqta are needed.

Typhoid

Fecal/oral-transmitted bacterium

The oral vaccine (Ty21a, brand name Vivotif) is taken every other day for four doses and must be kept refrigerated. Travelers should try to get this started at least 2-3 weeks before going abroad, as the oral vaccine takes a week to administer, and it takes 7-10 days to build an immune response. Since it is a live vaccine, it can cause some GI upset and, separately, it cannot be taken simultaneously with antibiotics (eg, if the patient has a concomitant UTI). Vivotif provides protection for 5 years.

The injectable vaccine (Vi polysaccharide, brand name Typhim) is attenuated and affords protection for 2-3 years. It, too, should be given 7-10 days prior to travel.

The oral formulation can be given to travelers starting at 6 years of age and is typically less expensive than the intramuscular vaccine, though the latter can be given to children as young as age 2 years.

Vaccination in either form provides imperfect protection; reports generally range from 48% to 80% efficacy.⁴ Since immunity against typhoid does wane over time, this vaccine is often included on a traveler's yellow card, if they have one. (Note that some patients of foreign birth or heritage decline this vaccine on the basis that they are going back “home” to visit friends or relatives [VFRs], and in fact may not be inclined to take as many precautions. However, their immunity may have either faded or never developed in the first place. These patients must be reminded they are indeed at risk.)

Influenza

Droplet-transmitted virus

The guidelines for seasonal influenza vaccination are basically the same for patients staying stateside as those traveling abroad. The classic “flu season” is protracted around Equatorial countries and “flipped” in the Southern Hemisphere (ie, a traveler to Australia in July should give some foresight to the flu). Avian and swine flu are beyond the scope of this review.

Hepatitis B

Blood-borne virus

Most individuals who have attended public school have been immunized against hepatitis B as a child, but im-

Table 2. Criteria for Preexposure Immunization for Rabies

Risk Category	Nature Of Risk	Typical Populations	Preexposure Regimen
Continuous	<ul style="list-style-type: none"> • Virus present continuously, often in high concentrations • Specific exposures (bite, nonbite, or aerosol) likely to go unrecognized 	<ul style="list-style-type: none"> • Rabies research laboratory workers^a • Rabies biologics production workers 	Primary course; serologic testing every 6 months; booster vaccination if antibody titer is below acceptable level ^b
Frequent	<ul style="list-style-type: none"> • Usually episodic exposure (bite, nonbite, or aerosol) with source recognized • Possible unrecognized exposure 	<ul style="list-style-type: none"> • Rabies diagnostic laboratory workers^a • Cavers • Veterinarians and staff • Animal control and wildlife workers in areas where rabies is enzootic • All people who frequently handle bats 	Primary course; serologic testing every 2 years; booster vaccination if antibody titer is below acceptable level ²
Infrequent (greater than general population)	Exposure (bite or nonbite) nearly always episodic with source recognized	<ul style="list-style-type: none"> • Veterinarians and animal control staff working with terrestrial carnivores in areas where rabies is uncommon to rare • Veterinary students • Travelers visiting areas where rabies is enzootic and immediate access to medical care, including biologics, is limited 	Primary course; no serologic testing or booster vaccination
Rare (general population)	Exposure (bite or nonbite) always episodic, with source recognized	U.S. population at large, including people in rabies-epizootic areas	No preexposure immunization necessary

^aJudgment of relative risk and extra monitoring of vaccination status of laboratory workers is the responsibility of the laboratory supervisor (for more information, see www.cdc.gov/biosafety/publications/bmbl5).

^bPreexposure booster immunization consists of one dose of human diploid cell (rabies) vaccine or purified chick embryo cell vaccine, 1 mL dose, intramuscular (deltoid area). Per ACIP recommendations, minimum acceptable antibody level is complete virus neutralization at a 1:5 serum dilution by the rapid fluorescent focus inhibition test, which is equivalent to approximately 0.1 IU/mL. A booster dose should be administered if titer falls below this level in populations that remain at risk. Source: Centers for Disease Control and Prevention. *Yellow Book*. Table 4-16. Available at: <https://wwwnc.cdc.gov/travel/yellowbook/2020/travel-related-infectious-diseases/rabies#5578>. Accessed April 12, 2021.

munity does wane. Unless specifically required, a titer to prove (or disprove) immunity is unnecessary, as the patient is typically paying out-of-pocket for their travel visit anyway. When in doubt, it's better to reimmunize, either as a single booster or the whole series (day 0, 1-2 months after that, and 6 months after the first dose). Since there is no vaccine against hepatitis C at the present time, when you discuss hepatitis B, it may also be a good time to bring up safer sex practices while abroad.

Measles, Mumps, and Rubella (MMR)

Droplet-transmitted viruses

Again, most Americans born in 1957 or later have had this two-shot series. As with hepatitis B, drawing titers is usually unnecessary.

Polio

Fecal/oral-transmitted virus

Only a handful of countries will require a recent poliomyelitis adult booster for *exit* (eg, travelers staying >4 weeks in Pakistan or Afghanistan), but if the traveler is not an American national, there may be other requirements.

Rabies

Fatal virus transmitted through animal bites

Vaccination is costly, uncomfortable, and doesn't necessarily preclude cutting travel short if one gets bitten while abroad. Generally, rabies vaccination is only recommended for travelers who will be at an increased risk: veterinary clinic workers or people involved in animal rescue, spelunkers (who may come into contact

with bats), or people researching the rabies virus itself. The CDC's *Yellow Book* has an excellent table to help you risk-stratify (see **Table 2**). Higher-risk areas include South and Southeast Asia, Tropical Africa, and Central America. If you do vaccinate, it is offered on days 0, 7, and 21 (or 0, 7, and 28). Antibody levels should be checked every 2 years and a booster given if needed. Since even a vaccinated person who is exposed will require some medical treatment, it is advisable to also discuss medical evacuation insurance and to differentiate it from travel and health insurance.

Japanese Encephalitis (JE)

Mosquito-borne virus

Vaccination against JE is expensive. It is usually dosed at days 0 and 28, though the FDA has approved an expedited dosing schedule at days 0 and 7 for adults 18-65 years of age, with similar efficacy and without increased side effects. Ixiaro is recommended for travelers to rural agricultural areas in Asia (eg, Chiang Mai Valley in Thailand) who will be abroad for >1 month during transmission season (usually May through October). Expatriates may also need vaccination. A booster may be needed after 1-2 years if there is ongoing risk.

Tick-Borne Encephalitis (TBE)

Virus spread by arthropods or in unpasteurized dairy products

The vaccine against TBE (given as three intramuscular injections over 6 months) is only available in Europe and Australia. If a traveler is going to a country affected by this illness, encourage use of bug spray and performance of "tick checks," even in urban areas.

Meningococcus

Potentially fatal droplet-transmitted bacterium

The clinical entity of meningitis can have bacterial, viral, fungal, and parasitic etiologies.

Routine childhood vaccination against bacterial meningitis is common in many countries. Apart from providing preventative care, and unless the traveler is a healthcare professional or an immunocompromised patient at increased risk, one of the only times you'll have to worry about meningitis vaccination is when someone is traveling to the so-called Meningitis Belt of sub-Saharan Africa during the dry season (December to June). Most of the countries in this region only have a section of their territory affected, so knowing the traveler's exact destination is important. Travelers to this area risk infection with the A, C, W, and Y strains of bacterial meningitis. The B strain is extremely rare in this area, and the meningitis B (MenB) vaccine is not currently

recommended for travelers except those going to areas with an active outbreak.

In addition, Saudi Arabia requires proof of vaccination against the A, C, W, and Y strains for travelers going there for Hajj or Umrah pilgrimage.

Travelers between 2 and 55 years of age should get MenACWY. Though MenACWY is not licensed in the United States for vaccination of individuals 56 years-old and above, the polysaccharide vaccine (MPSV4, brand name Menomune) was discontinued in 2017, so MenACWY is used by default.

Cholera

Water-borne bacterium

In theory, this ranks with hepatitis A and typhoid in terms of health impact, but vaccination with Vaxchora is usually only recommended for aid and refugee workers (eg, UN relief workers). The classic presentation of this acute diarrheal illness is "rice water stool." Dukoral, which is not available in the United States, is a two-dose, inactivated vaccine that also affords some protection against enterotoxigenic *Escherichia coli*.

Tetanus, Diphtheria, and Pertussis (Tdap)

Droplet-transmitted bacteria (Clostridium tetani spores are also found in soil and animal manure)

For international travelers, Tdap, which includes protection against whooping cough, is preferred over the "plain" Td booster. Most adolescents will be up to date on their tetanus vaccination, but older adults may need a booster. It is typically given to women just after giving birth—which can help narrow down the administration date for some travelers—but is often forgotten for other close household contacts. Regardless, after the initial childhood series, a tetanus booster should be given every 10 years.

Pneumococcus

Droplet-transmitted bacterium

The guidelines changed within the last few years to advise Prevnar (PCV13) at age 65 and Pneumovax (PCV23) 6-12 months later. Individuals who received Pneumovax without Prevnar preceding it (ie, before the guideline changed) are becoming fewer and fewer. Pneumococcal vaccine can be given earlier than age 65 if the traveler has certain comorbidities such as asthma or diabetes.

Varicella

Droplet-transmitted virus

Similar to MMR, Americans born after 1979 should have already been vaccinated (and those born prior

Table 3. Contraindications and Considerations for Airline Travel	
Risk	Avoid airplane travel
Uncomplicated MI	<3 weeks post event
Thoracic or abdominal surgery	<10 days post event
Neurosurgical intervention	<7 days post event
Laparoscopy or colonoscopy	<24 hours post event
SCUBA diving	<24 hours post event
Pregnancy	>34 weeks gestation (though some airlines draw the line at 32 weeks and some go as late as 36 weeks)
Neonates	+<48 hours old (though some airlines go as late as <7 days old)
Active communicable disease	Always avoid airline travel

probably already had the illness). For older adults, consider immunization against herpes zoster (shingles) with Shingrix, which effectively replaced Zostavax in 2018.

Other Pharmacoprophylaxis and Treatment

Malaria

Parasite transmitted by mosquitoes that bite from dusk to dawn

Along with yellow fever, hepatitis A, typhoid, and potentially rabies, this is one of the most important topics to cover with travelers.

Some countries are plagued with the disease and some only have spotty areas of transmission. Elevation matters (eg, tropical lowlands are particularly at risk). As such, this is another instance in which you need to know the traveler's exact destination(s). A visitor to Brazil, for instance, may go in and out of endemic regions during their travel to popular tourist spots, and/or the risk may change by season. A visitor to Ghana will need continual prophylaxis.

Chloroquine (Aralen) resistance is prevalent outside of Central America, so normally one's options for prophylaxis include atovaquone-proguanil (Malarone), doxycycline, tafenoquine (Arakoda), and mefloquine (Lariam). Doxycycline can be photosensitizing, but the bigger drawback is gastrointestinal upset. Additionally, it must be taken for a full month upon exiting the endemic region. Nonetheless, it is a relatively cost-effective option for long-term exposure. Tafenoquine is a newer drug that is taken weekly after a loading dose. Meflo-

quine, which is also taken weekly, is a reasonable option for the long-term traveler or expatriate, but it can cause vivid dreams or nightmares and carries a black-box warning for drug-induced psychosis. The risk is much higher in individuals with any kind of psychiatric history—even mild anxiety or depression. If a traveler would like to use mefloquine for malaria prophylaxis, offer a trial period of taking the medication starting at least 1 month before going abroad. That way, if the patient finds it intolerable, there is still time to switch to a different medication. Travelers with G6PD should not use chloroquine, primaquine, mefloquine, or tafenoquine.

Many travelers opt for atovaquone-proguanil, which is taken daily and starts 1-2 days before entering the endemic region, daily while there, and for 7 days upon exit. A little buffer in pill count (eg, rounding up to the next even number) may be helpful in the event of travel delays. Long-term travelers to remote areas may wish to bring a malaria self-treatment regimen of either atovaquone-proguanil or artemether-lumefantrine (Coartem) in case they become infected.

Discussion about malaria chemoprophylaxis offers a good opportunity to talk to patients about counterfeit medications that may be found abroad. Proclaimed antimalarial prophylaxis is not something travelers should take a gamble on. (It is noteworthy to mention that a person cannot safely ingest enough tonic water to protect them from malaria—something some patients still ask about.)

Regarding insect repellent, 20%-50% DEET provides coverage for about 4-6 hours per application and is safe for pregnant women and children as young as 2 months of age. If used with sunblock, it should be applied second (ie, after the sunblock), though it is important to note it may reduce the sunblock's efficacy.⁵ Appropriate alternative insect repellents include 20% picaridin and permethrin-impregnated clothing and/or bed nets. Bottles of permethrin can be purchased for self-treatment of clothing and linens, but it is usually easier to buy pretreated items because permethrin can wear out clothing more quickly and can only endure a few laundry washes before retreatment must be performed.

Traveler's Diarrhea

Common illness among travelers, with multiple different etiologies

Traveler's diarrhea is defined by the sudden onset of abnormally loose, frequent stools (three or more episodes in a 24-hour period). The safety of the local water supply should be a constant consideration. Is the tap water potable? To be safe, travelers should use bottled water, even when brushing their teeth. Counsel them about food safety (ie, the old adage "cook it, boil it,

peel it, or forget it"). Avoid ice cubes, "street meat," and hard-to-wash foods (eg, strawberries).

Mild diarrhea

For mild diarrhea, fluid repletion with clean water or a sports drink like Gatorade is important (though Coca-Cola will work in a pinch). Travelers may consider bringing packets of oral rehydration salts, though this still requires access to clean water. When in doubt, fizzy water (ie, tonic or seltzer water) is typically safer than still, as one can more easily tell if the container has been tampered with.

Loperamide, an antiperistalsis agent, will certainly stanch diarrhea—but can cause constipation instead. This double-edged sword may be fine if there is an important meeting, wedding, or other event that cannot be missed (or if the patient will be traveling long distances without easy access to a sanitary bathroom facility), but it also theoretically keeps the causative agent inside them longer. It may be better to have the traveler just excrete whatever is making them sick and replete fluid losses. Bismuth subsalicylate (Pepto-Bismol or Kaopectate) helps with cramping and bloating without causing constipation. These medicines can cause darker-colored stool and shouldn't be used if the traveler can't take aspirin.

Moderate diarrhea

"Moderate diarrhea" is more than just some loose stool due to a change in diet. Rather, it is an illness that includes fever, stomach cramps, and muscle aches. Since it presupposes a bacterial etiology, there is significant debate in the medical community about supplying travelers with antibiotics for self-treatment prior to them even falling ill. Due to increasing resistance and the risk of spontaneous tendon rupture, fluoroquinolones (namely, ciprofloxacin) are no longer the preferred agent for self-treatment. Instead, azithromycin (500 mg taken daily for up to 3 days if symptoms do not resolve sooner) is the current standard, regardless of destination. Depending on the length of time abroad, you may prescribe multiple courses. Unfortunately, azithromycin interacts with some SSRIs. In the case of drug allergies or interactions, rifaximin may be a reasonable, albeit expensive, alternative.

While these medications can be dosed for children, parents often find the regimen inconvenient. As such, they may opt to be aggressive with hydration and rehydration, and to seek out proper medical care early if needed.

Severe diarrhea

Lastly, severe diarrhea (noted by treatment failure with

3 days' worth of azithromycin, intractable vomiting, and/or bloody diarrhea [dysentery]) should prompt medical evaluation as well. The patient could be suffering from a parasitic infection like *Entamoeba histolytica*.

Though travelers may tell you they have received prescriptions for antiemetics, antiparasitics, or other antibiotics from other providers, there is no evidence to support this practice. Only if the traveler is going to be on their own in a remote location and has medical training might this be reasonable.

Other Counseling Topics

Access to Medical Care Abroad

Many pretravel consults do not include a thorough physical exam. Instead, the patient is often taken at their word regarding medical and psychiatric comorbidities. If strenuous activities are planned, however, consider a more formal assessment of the traveler's fitness (eg, cardiac risk stratification). These activities (eg, hiking Mount Kilimanjaro) should only be pursued in consultation with a reputable tour company and guides. Similarly, travelers should know where they can access appropriate medical care abroad (eg, a decompression chamber, if going diving), as well as the location of their embassy or consulate. The International Society of Travel Medicine (ISTM, www.istm.org) and the International Association for Medical Assistance to Travelers (IAMAT, www.iamat.org) both maintain listings of international clinics on their respective websites.

Environmental Hazards

Remind travelers to stay fluid hydrated, especially during airplane travel. Where appropriate, dress in layers. Allow time to acclimatize to altitude. If this is not possible, or for those who report being particularly sensitive to high elevations, consider acetazolamide (Diamox) or dexamethasone. Consider anticipated exposure to air pollution, especially for travelers with respiratory conditions. Travelers should use caution when swimming in the ocean (eg, undertow/rip tide, aquatic life) as well as in fresh water (eg, schistosoma). Avoid walking barefoot. Use sunblock.

Interpersonal Risks

Travelers should not draw unnecessary attention to themselves. Do not bring flashy jewelry or other markers of wealth (eg, expensive electronics). Do not use unlicensed taxis ("gypsy cabs"). Avoid using bank ATMs that are not well lit or protected from the street (eg, without a security guard standing by). Travelers should take care that no one is observing their PIN code or fol-

lowing them afterwards. Backpacks and purses should remain within one's direct line of sight, especially in crowded buses, trains, restaurants, and bars. A money belt and/or a "decoy" wallet/purse should be considered. As in the domestic setting, sexual contact should include undamaged latex condoms.

Airplane Travel

Nearly two-thirds of in-flight medical emergencies are related to preexisting health issues. Individuals traveling with medical devices (eg, pneumatic splints, feeding tubes, cuffed endotracheal/tracheostomy tubes, urinary catheters) should use caution due to pressurization of the airplane cabin. If a traveler has a resting oxygen saturation <92% at sea level, they should probably travel with a portable oxygen concentrator.⁶ These devices require preflight approval by the airline, and the paperwork between airlines varies.

Similarly, individual airlines have their own policies regarding medical "clearance" prior to air travel. The International Air Transport Association (IATA) recommends completion of a Medical Information Form (MEDIF) if an individual's fitness for travel is in doubt due to recent illness, injury, hospitalization, surgery, or instability of acute or chronic medical condition, or if special services (eg, portable oxygen) are required.⁷ Medical clearance is generally not required for wheelchairs or other assistive devices. Specific contraindications for airplane travel are outlined in **Table 3**.⁸⁻¹⁰

Training And Certification

Many universities have training programs in tropical medicine. The ISTM offers a Certificate of Knowledge for medical providers who take and successfully pass their comprehensive exam in Travel Medicine. The American Society of Tropical Medicine and Hygiene (ASTMH), the National Health Service (NHS), and CDC Training and Continuing Education Online (TCEO) offer other opportunities for education and scholarship.

Take-Home Points

- A travel medicine consultation is an assessment of possible health risks abroad, viewed through the lens of the patient's own fitness for travel.
- Yellow fever—and depending on the destination, meningitis and/or polio—are the only "required" vaccines for international travel, though typically typhoid, hepatitis A, and tetanus vaccinations are also recommended.
- Where appropriate, travelers should use oral prophylaxis against malaria as well as DEET-containing

Resources

Advances in prophylaxis and treatment can quickly render previous regimens obsolete. Thus, it is important to stay up to date with current recommendations. The following resources may help inform recommendations you make to patients for whom you are performing a pretravel consultation:

- The Centers for Disease Control and Prevention's Yellow Book—so named because it is indeed yellow—is available for free online at wwwnc.cdc.gov/travel/page/yellowbook-home. A print version is updated at least every other year and can be purchased through various retailers. The travel vaccine summary (Appendix B) and summary of immunization of immunocompromised adults (Chapter 5) are particularly useful references.
- The U.S. Department of State maintains a helpful website at travel.state.gov/content/travel/en/international-travel.html. Though it is certainly possible to review health information through a country's own consulate, this information may intentionally or unintentionally minimize risks.
- Shoreland's Travax (www.travax.com) is a subscription-based third-party company that provides location-specific travel guidance on international health risks, including infectious diseases, natural disasters, and interpersonal violence.

insect repellent and mosquito nets.

- Travelers should consider OTC medications and oral antibiotics for self-treatment of traveler's diarrhea. ■

References

1. Sanford C, McConnell A, Osborn J. The pretravel consultation. *Am Fam Physician*. 2016; 15;94(8):620-627.
2. Noble LM, Wilcox A, Behrens RH. Travel clinic consultation and risk assessment. *Infect Dis Clin N Am*. 2012;20:575-593.
3. Gheradin T. The pre-travel consultation – an overview. *Austral Fam Physician*. 2007;36(5): 300-303.
4. Jackson BR, Iqbal S, Mahon B. Updated recommendations for the use of typhoid vaccine—ACIP, US, 2015. *MMWR*. 2015;64(11):305-308.
5. Yellow Book 2020, chapter 3.
6. Edvardsen A, Akerø A, Christensen CC, et al. Air travel and chronic obstructive pulmonary disease: a new algorithm for pre-flight evaluation. *BMJ Thorax*. 2012;67(11):964-969.
7. Martin-Gill C, Doyle TJ, Yealy DM. In-flight medical emergencies: a review. *JAMA*. 2018;320(24):2580-2590.
8. Bourell L, Turner MD. Management of In-flight medical emergencies. *J Oral Maxillofac Surg*. 2010;68(6):1377-1383.
9. Donner HJ. Is There a doctor onboard? Medical emergencies at 40,000 feet. *Emerg Med Clin N Am*. 2017;35(2):443-463.
10. Aerospace Medical Association. Available at: www.asma.org. Accessed March 23, 2020.

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Adapted for the urgent care provider from the American Academy of Family Physicians' *Practice Management Handbook* (2020).

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Outpatient Management of COVID-19 in the Urgent Care Clinic: Administering Monoclonal Antibodies

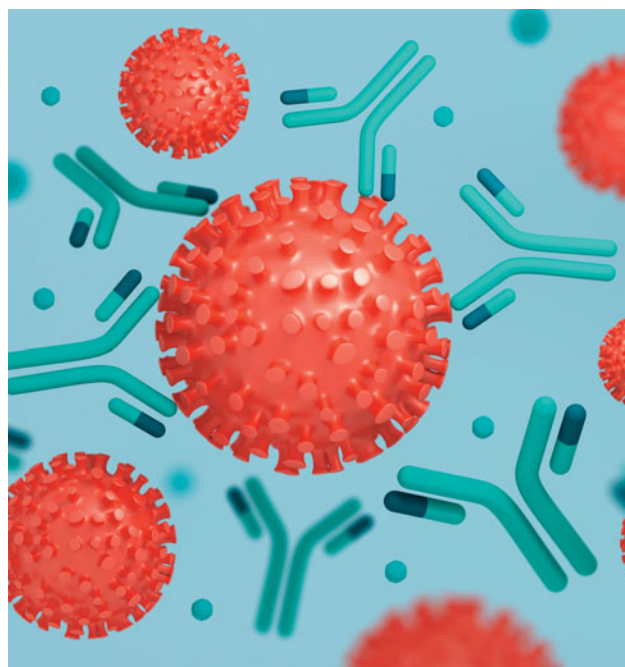
Urgent message: The approved use of monoclonal antibodies to treat patients who have COVID-19 may signal a shift from inpatient to outpatient care of infected individuals who do not require hospitalization. Urgent care facilities may be ideally suited to serve as treatment centers and to become destinations of choice for such patients.

LINDSEY FISH, MD

Now that COVID-19 has been with us for over a year, we are in a much different position regarding the treatment of this illness. While many of the initial therapeutics were focused on inpatient, specifically ICU-level management, there has been continued research and interest in the outpatient management of COVID-19. Currently, the only approved outpatient treatment involves the use of monoclonal antibodies (mAb) which require intravenous infusion. This method of administration creates a logistical problem in most outpatient settings. However, as John Adams said, “Every problem is an opportunity in disguise.”

Urgent care centers now have the opportunity to be creative and take advantage of this rare situation. In many ways, urgent care is an ideal setting for the administration of mAb; offering this service has benefits for both patients and the UCC alike. Specifically, most urgent care operations have a high degree of comfort managing patients with COVID-19, and UC providers are highly experienced in delivering such care.

Additionally, many UC clinics already provide infusions in the form of IV fluids and antibiotics, and have many of the necessary resources and infrastructure. Our clinic was able to begin a program providing for the ad-



ministration of these infusions in short order, supporting our patients and community by providing this resource.

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Table 1. Recommended Dilution and Administration Instructions for Bamlanivimab*⁴

Size of prefilled 0.9% sodium chloride infusion bag	Maximum infusion rate	Minimum infusion time
50 mL	270 mL/hr	16 minutes
100 mL	270 mL/hr	27 minutes
150 mL	270 mL/hr	38 minutes
250 mL	270 mL/hr	60 minutes
*700 mg of bamlanivimab (20 mL) is added to an infusion bag and administered as a single intravenous infusion.		

As mAb therapy is not yet ubiquitous, let's take a look at its administration in the context of COVID-19 in an urgent care center.

Currently, mAbs are the only antiviral therapy available for COVID-19–infected patients prior to hospitalization.¹ Of note, we learned at press time that the Emergency Use Authorization (EUA) granted by the Food and Drug Administration for bamlanivimab as a one-time infusion for cases of non-hypoxic mild/moderate COVID-19 illness was revoked. (See **Editor's Note**.) The EUA had been issued following a study on this treatment showed that the number-needed-to-treat (NNT) to prevent a hospitalization/ED visit within 29 days was 21.3; that decreased to a number-needed-to-treat of 9.6 specifically in high-risk patients (age>65, BMI>35).²

Additionally, patients receiving bamlanivimab felt better and had improvement of their symptoms as early as day 2 following administration.

Regeneron quickly followed on November 21, 2020, with an EUA for its mAb product, a combination of casirivimab and imdevimab. The FDA intervened immediately because the effect of the mAb products on mild-to-moderate COVID-19 illness showed clear benefits. As hospitals continued to be overwhelmed with COVID-19 patients, it became clear that preventing ED visits and hospitalization could not only meaningfully impact individual patient outcomes, but also reduce demands on the entire healthcare system. More recently, on February 9, 2021 Eli Lilly received an EUA for its mAb combination product, bamlanivimab and etesevimab.

EDITOR'S NOTE

At press time, we learned that the Emergency Use Authorization granted by the FDA for use of bamlanivimab as a solo, one-time infusion had been revoked, in light of data on use of the combination product bamlanivimab/ etesevimab (also discussed in this article). As the statements made here reflect valid clinical data regarding use of mAbs for treatment of COVID-19 overall, we thought it was important to share this information with you.

Administration of bamlanivimab, specifically its single preparation, is more straightforward. As such, it may be a better mAb option for UC clinics. Currently, the EUA for bamlanivimab approves its use for COVID-19 patients, within 10 days of symptom onset, not requiring oxygen therapy. In addition, the adult patient must have one of the following conditions: BMI ≥ 35 , chronic kidney disease, diabetes, immunosuppressive disease, receiving immunosuppressive treatment, age ≥ 65 or age ≥ 55 with cardiovascular disease, hypertension, or COPD/chronic pulmonary disease.

The EUA also authorized the use of bamlanivimab in adolescents 12–17 years of age with one of the following conditions: BMI ≥ 85 th percentile for age/gender, sickle cell disease, congenital or acquired heart disease, neurodevelopmental disorders (eg, cerebral palsy), medical-related technological dependence (eg, tracheostomy, gastrostomy, or positive pressure ventilation not related to COVID-19), or asthma, reactive airway, or other chronic respiratory disease requiring daily medication for control.³

The administration of bamlanivimab is via IV infusion. The treatment dose is 700 mg, provided in one vial. Initially, this had to be mixed into 250 mL of sodium chloride and infused over 60 minutes. However, now the 700 mg can be mixed into smaller amounts of sodium chloride and infused more rapidly. Please see **Table 1**.⁴

Monitoring of the patient is recommended during the infusion and for 60 minutes following the infusion. Adverse events occur in less than 3% of patients and most are mild and include hypersensitivity reactions, nausea/vomiting, diarrhea, dizziness, headache, and pruritis. If a mild infusion reaction occurs, it can usually be treated by slowing the infusion rate and providing symptom management. Providers should be aware that anaphylaxis is exceptionally rare but is a possibility. As such, the sites administering bamlanivimab should have a process and resources in place to manage this type of medical emergency.

Bamlanivimab needs to be stored in its original vial



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and protected from light at 2°-8° C. It should not be frozen, shaken, heated, or exposed to direct light. Once it is reconstituted, it is stable for 24 hours at 2°-8° C, or 7 hours at room temperature (including infusion time). It should be warmed to room temperature for at least 15 minutes prior to administration. Infusion supplies required to administer bamlanivimab include an IV insertion kit, sodium chloride bag, IV infusion tubing, and a filter. If a UC clinic does not have a pump available, bamlanivimab can also be hung to gravity and the drip rate can be used to calculate the infusion rate.

Patients receiving the infusion should be provided the bamlanivimab fact sheet.⁵ Providers should have a conversation with the patient regarding monoclonal antibodies and how they work. A formal informed consent process discussing the risks and alternatives is recommended. In our clinic, following the administration of 90 doses of bamlanivimab to qualified patients, only two patients presented to the ED/hospital with worsening symptoms and only one patient experienced a mild adverse reaction.

Distribution of the mAbs has been managed by Operation Warp Speed (OWS). The United States federal government has distributed the supply to the state and territory health departments and has left final allocation responsibility to them. The distribution supply has been determined by confirmed hospitalizations and confirmed cases in an effort to ensure both temporal and geographic equity.⁶ This has led to some difficulty in smaller, non-hospital-based systems receiving doses.

Additionally, OWS has created the Special Projects for Equitable and Efficient Distribution (SPEED) program, which launched in mid-December. This program has provided direct distribution to long-term care facilities, federally qualified health centers, dialysis centers, and correctional facilities.⁷ As such, urgent care centers interested in offering mAb infusions should contact their state/territory health department to determine how to apply for a supply. UCCs might also partner with programs able to receive a direct distribution via SPEED in order to help administer mAbs to their patients.

Further, the U.S. government has purchased all of the mAbs directly from the manufacturers. As such, the medication itself is free to patients and providers. The Centers for Medicare and Medicaid Services has set a fully loaded reimbursement rate on average at \$309.60 to cover the administration cost in all settings.⁸ In addition, these infusions are required to be covered by state Medicaid as part of the Families First Coronavirus Response Act.⁹ It is anticipated that commercial insurers will follow the lead of CMS in regard to reimbursement.

Details regarding coding and billing are available through CMS.gov.⁸

We will continue to see COVID-19 infections in our urgent care centers, and as we are accustomed to seeing these patients for their illness, we now have the opportunity to begin offering treatment for certain higher-risk individuals as well. Early data suggest that treating these infections with mAb infusions early in the course may result in better patient outcomes and reduce need for ICU-level care in our health system.

In our clinic, when patients who would qualify for mAb therapy present with possible COVID-19, we perform a rapid COVID-19 PCR test. If the test is positive, we immediately administer bamlanivimab in accordance with our state requirements. The patient and provider alike are generally thrilled to have a successful and complete visit.

There are many resources available to guide clinics in establishing their own procedures to perform these infusions when indicated.^{4,10,11} As such, mAb therapy represents another clear opportunity for urgent care to serve patients and public health alike in the setting of this crisis. ■

References

1. Food and Drug Administration. Coronavirus (COVID-19) update: FDA authorizes monoclonal antibodies for treatment of COVID-19. Available at: <https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-authorizes-monoclonal-antibodies-treatment-covid-19>. Accessed April 9, 2021.
2. Chen P, Nirula A, Heller B, et al for the BLAZE-1 Investigators. SARS-CoV-2 neutralizing antibody LY-CoV555 in outpatients with Covid-19. *N Engl J Med*. 2021;384(3):229-237.
3. Eli Lilly and Company. Fact Sheet for Health Care Providers: Emergency Use Authorization (EUA) of Bamlanivimab. Available at: <https://pi.lilly.com/eua/bamlanivimab-eua-factsheet-hcp.pdf>. Accessed April 9, 2021.
4. Food and Drug Administration. Fact sheet for health care providers emergency use authorization (EUA) of bamlanivimab. Available at: <https://www.fda.gov/media/143603/download>. Accessed April 9, 2021.
5. Eli Lilly and Company. Fact Sheet for Patients, Parents and Caregivers Emergency Use Authorization (EUA) of Bamlanivimab for Coronavirus Disease 2019 (COVID-19) Available at: [bamlanivimab-eua-factsheet-patient.pdf](https://pi.lilly.com/eua/bamlanivimab-eua-factsheet-patient.pdf) (lilly.com). Accessed April 9, 2021.
6. U.S. Department of Health and Human Services. Outpatient monoclonal antibody treatment for COVID-19 made available under Emergency Use Authorization. Available at: www.phe.gov/bamlanivimab. Accessed April 9, 2021.
7. U.S. Department of Health and Human Services. Special Projects for Equitable and Efficient Distribution (SPEED) of COVID-19 Outpatient Therapeutics. Available at: <https://www.phe.gov/emergency/events/COVID19/investigation-MCM/Pages/SPEED.aspx>. Accessed April 9, 2021.
8. Centers for Medicare & Medicaid Services. Medicare Monoclonal Antibody COVID-19 Infusion Program Instruction. Available at: <https://www.cms.gov/files/document/covid-medicare-monoclonal-antibody-infusion-program-instruction.pdf>. Accessed April 9, 2021.
9. Centers for Medicare & Medicaid Services. Coverage of Monoclonal Antibody Products to Treat COVID-19. Available at: <https://www.cms.gov/files/document/covid-infographic-coverage-monoclonal-antibody-products-treat-covid-19.pdf>. Accessed April 9, 2021.
10. U.S. Department of Health and Human Services. Therapeutics: Monoclonal Antibody Playbook. https://www.phe.gov/emergency/events/COVID19/investigation-MCM/Documents/COVID-Therapeutics-playbook_1Feb2021.pdf. Accessed April 9, 2021.
11. Eli Lilly and Company. Lilly Bamlanivimab Antibody Playbook. Available at: <https://www.covid19.lilly.com/assets/pdf/bamlanivimab/lilly-antibodies-playbook.pdf>. Accessed April 9, 2021.

The Implementation of Nurse-Initiated Ankle and Foot X-rays in an Urgent Care Setting

Urgent message: Nurse-initiated protocols (NIPs) have been found to be beneficial in emergency department settings. Nurse-initiated x-rays for ankle and foot injuries can reduce patients' length of stay while improving staff satisfaction. Utilization of NIPs in an urgent care setting can bring positive benefits to patients, staff, and the organization.

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Citation: Gilles AU, Xiong D, Prochnow JA. The implementation of nurse-initiated ankle and foot x-rays in an urgent care setting. *J Urgent Care Med.* 2021; 15(8):26-32.

Introduction

Background

Overcrowding and long wait times are prevalent in healthcare facilities across the United States. The relationship between wait times and patient satisfaction has been well studied and demonstrates that longer wait times lead to lower patient satisfaction scores.¹ Further, overcrowding and long wait times correlate with decreased confidence in the healthcare provider (HCP), decreased perceived quality of care, increased patient mortality rates, increased treatment delays, and inadequate pain control.^{1,2}

Nurse-initiated protocols (NIPs) that target certain presenting complaints are a possible workflow process improvement presented in the literature. These protocols can be useful when the provider is not available for immediate patient assessment. Often in emergency department settings, a patient will wait for hours before being assessed by a physician, whereas the use of NIPs allows nursing staff to initiate diagnostic testing during this

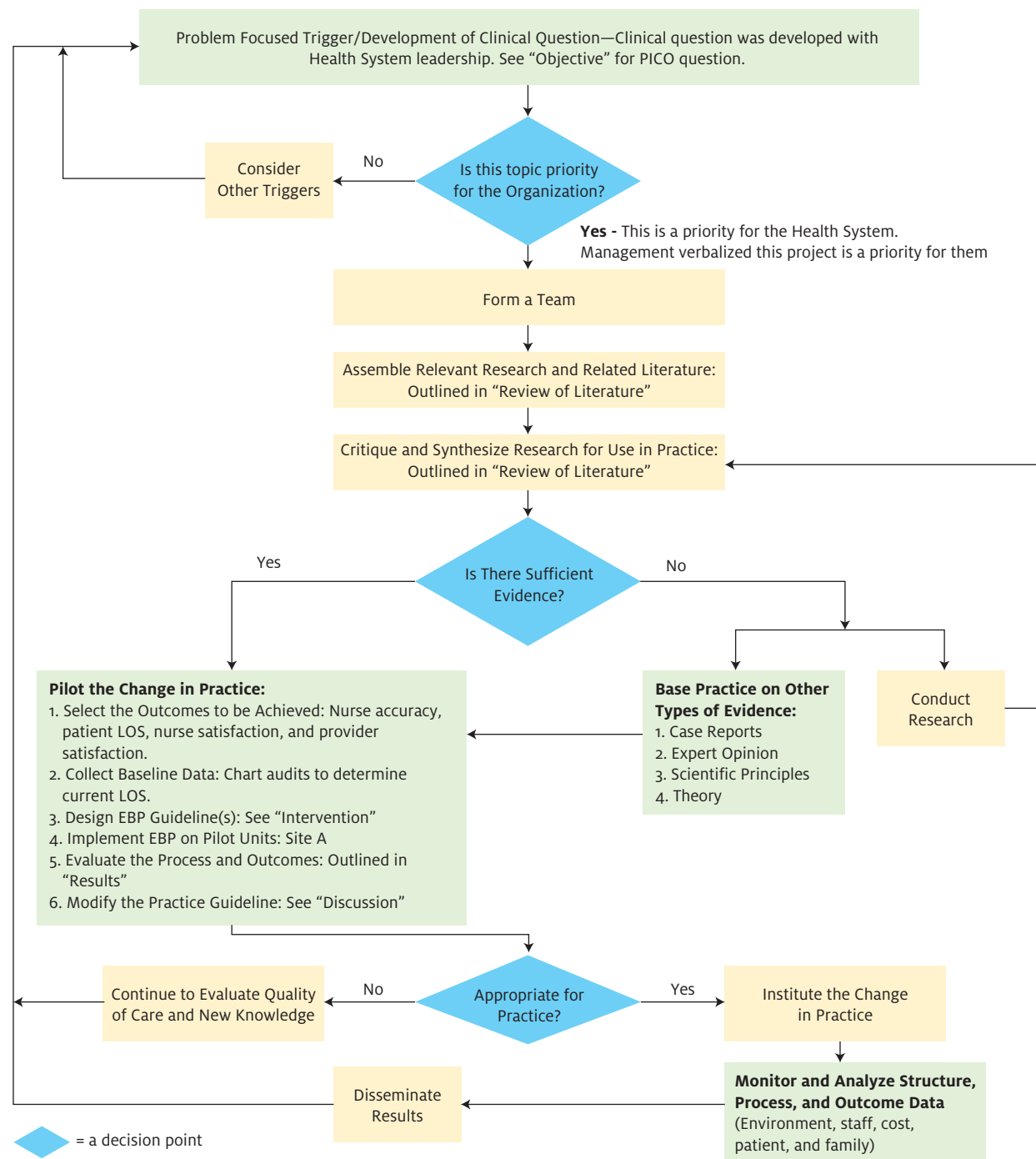


time.² Use of NIPs has been found to improve patient outcomes and decrease patient's length of stay (LOS).^{2,3}

Objective

There is a lack of research regarding NIPs in an urgent care setting, as most studies on NIPs in the literature

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Figure 1. The Iowa Model of Evidence-Based Practice to Promote Quality Care

Source: Iowa Model Collaborative (2017). Iowa model of evidence-based practice. Revisions and validation. *Worldviews on evidence-based nursing*, 14(2), 175-182. Used/reprinted with permission from the University of Iowa Hospitals and Clinics, copyright 2015. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at 319-384-9098.

Table 1. Summary of Nurse Accuracy Data

	May	June	July	August	Total
# of adult x-rays	15	59	75	21	170
# excluded due to protocol	5	40	40	9	94
# of missed opportunities	4	14	22	10	50
# of x-rays ordered by RN	6	5	13	2	26

were conducted in the ED. However, the leaders and staff at one Midwestern, suburban urgent care center have seen the negative impacts of long patient wait times and the need for NIPs in an urgent care setting. The purpose of this project was to examine the impact of the implementation and evaluation of NIPs in one UC setting. The following PICO (population, intervention, control, and outcomes) question was formulated to explore the use of NIPs in UC: “Can nurses in an ambulatory care setting (P), accurately use (O) nurse-initiated protocols (I) such as ankle and foot radiographic tests for orthopedic injuries as compared to current practice (C); increase nurse/provider satisfaction; and decrease patient LOS (O)?”

“While NIXR are as accurate as radiographic tests ordered by providers, the literature concluded that NIXR decreased the number of x-rays ordered while maintaining or increasing the number of fractures detected.”

It was hypothesized that NIPs would be used accurately by the nursing staff and lead to a decrease in patient wait times and an increase in nurse and HCP satisfaction.

Review of Literature

Common themes regarding NIPs were discovered after examining evidence in the literature. These include wait times, patient satisfaction scores, staff satisfaction, and accuracy of NIPs.

NIPs can decrease the time patients wait for radiographic images. The implementation of nurse-initiated x-rays (NIXR) can reduce the time from triage assessment to x-ray and x-ray review by an HCP.³ NIXR can also reduce the patients' LOS in a department.³⁻¹⁰

NIPs can also have a positive impact on patient and staff satisfaction. Patients and families had positive feed-

back about NIPs and indicated satisfaction, as well.⁹ Nurses in the literature review reported increased job satisfaction and an increased sense of autonomy and empowerment, and felt NIPs benefited their department.^{3,9,11} All physicians surveyed were satisfied by having results available at the time of patient assessment.⁹

While NIXR are as accurate as radiographic tests ordered by providers, the literature concluded that NIXR decreased the number of x-rays ordered while maintaining or increasing the number of fractures detected.^{5,6,8,9} In addition, there was no statistical difference or fewer ankle fractures missed with NIXR^{6,8} in the context of the Ottawa Ankle Rules (OAR), a validated tool that has been deemed successful and useful in assessing patients who presented with a suspected foot or ankle fracture.⁸ This tool provides a functional assessment to determine if patients need radiographic imaging. It was created with the intention of detecting the problem quickly, minimizing unnecessary imaging, and shortening ED wait times and cost.¹² In one study, the sensitivity of the OAR by nurses was 100%.¹³

Methods

Evidence-based practice implementation model

The Iowa Model of Evidence-Based Practice to Promote Quality Care was used to guide the implementation process of this project (**Figure 1**). This model was selected due to the lack of high levels of evidence in the literature regarding this topic. It can be used for practice changes based on research from lower levels of evidence.¹⁴

Setting and Sample

The setting for this project was a Midwestern suburban UC center. This UC center is a walk-in clinic that treats patients of all ages for non life-threatening illnesses and injuries. The UC employs 14 full- or part-time registered nurses (RNs). Patients who come to UC are treated based on order of arrival and seriousness of their condition. Wait times vary and depend on how many other patients are waiting to be seen. Average LOS (check-in time to discharge) for patients in this UC in 2018 ranged

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Table 2. Summary of Overall LOS (in Minutes) of Patients When Imaging Ordered by Provider vs RN

Group	N	Mean \pm SD	Mean Difference (MD – RN)	Lower CL Difference	Upper CL Difference	p – value
MD	48	95.9 \pm 48.9				
RN	25	74.5 \pm 25.9				
			21.4	3.9	38.8	.0172*

*Statistical significance at the 0.05 level.

from 78.67 minutes (May) to 106.28 minutes (January). In December 2018, UC saw between 63 and 118 patients per day and performed 27 ankle and 35 foot x-rays.

Implementation

Two NIPs were implemented at the UC in May 2019; the implementation period lasted 12 weeks. The two protocols, an NIXR for ankle injuries and an NIXR for foot injuries, were created based on the OAR.

The project started with 13 RNs being educated on how to use the protocols. All RNs were emailed the protocols, along with learning materials on how to use the protocols prior to an individual education session with the project leads. During the education session, the project leads would verbally describe the protocol, including patient inclusion and exclusion criteria. Project leads also used YouTube instructional videos, demonstrated the protocols on mannequins, and demonstrated on the RN. Lastly, the RN could practice on the project leads and mannequins and ask any clarifying questions.

Education was also provided on the required documentation, in the electronic health record (EHR), when using the protocols. RNs were shown how to document the patient's verbal consent or right to refuse treatment in the nursing notes.

RNs were required to score 80% or higher on an eight-question post-test after the education session. An RN with less than 80% was walked through the test and protocol with the project leads until they achieved a score of 80% or higher.

Outcome Measures

The four outcomes evaluated were nurse accuracy in using the protocols, patient LOS, nurse satisfaction, and HCP satisfaction.

Nurse accuracy was determined by the nurse's documentation in the EHR. The project leads examined the EHR for each patient who presented to UC with foot or

ankle complaints. Project leads then looked at the RN's documentation to determine if the assessment documented by the RN resulted in the correct outcome (no orders placed by nurse or radiographic imaging ordered) based on the protocol. A "missed opportunity" existed when a patient fit the ankle and foot protocol, but the RN did not document in the EHR why an x-ray was not ordered. Thus, "misses" were one element of the nurse accuracy outcome. Another aspect of the accuracy outcome was based on whether providers ordered any additional imaging. Providers could order radiographic tests for patients with normal OAR assessment findings or could order additional radiographic imaging in addition to the imaging ordered by the RN.

"Although missed opportunities are important to document and show room for improvement, it is more important to discover that RNs aren't ordering x-rays when they shouldn't."

Patient's LOS was determined by the EHR. The EHR incorporates a timestamp tab that determines when a patient checks into UC and when the provider prints their discharge paperwork.

Lastly, *RN satisfaction* and *HCP satisfaction* information were gathered from survey questions using a five-point Likert scale emailed to RNs and HCPs. Nurses were asked to consider the following statements in the survey:

- The education session for the nursing protocols prepared me to use them in practice
- The protocols were easy to follow
- I feel confident using the nurse-initiated protocols
- With the addition of the nurse-initiated protocols, I feel more empowered as a nurse in my practice

- I feel the protocols are beneficial to patients, families, and the organization

Statements HCPs were asked to respond to included:

- I believe the nurses followed the protocols accurately
- I think it is beneficial for nurses to order foot and ankle x-rays prior to my assessment
- The protocols save time for you and the patient/family
- The protocols are beneficial to patients, families, and the organization"

Data Analysis

To determine how accurately RNs can use NIPs (see **Table 1**), the number of missed opportunities to order an x-ray was considered, as was the number of RNs who did not follow the protocol. The LOS (in minutes) was also analyzed for all adult patients who received ankle or foot x-rays. A t-test assuming unequal variances determined whether patient LOS differed with statistical significance across the x-rays ordered by the RN vs the x-rays ordered by an HCP. Statistical significance was determined at the 0.05 level. RN and provider satisfaction were analyzed via the surveys. The process to create a data sheet was the same for the RN satisfaction survey as well as for the provider satisfaction survey.

Results

Nurse Accuracy

There were 170 x-rays performed on patients seen for ankle and foot injuries from May to August 2019, during which time 94 patients with ankle or foot injuries were excluded based on the protocol criteria. Patients were excluded if they sustained the injury more than 7 days prior, if they had other physiological complaints other than the ankle or the foot, and if there was no bone tenderness in the malleolar zone or fifth metatarsal.

During the implementation period in May, there were 10 patients who met the inclusion criteria and RNs ordered six x-rays (60%). In June, RNs ordered five x-rays and 19 patients met the criteria (26%). In July, 35 patients met inclusion criteria and 13 x-rays were ordered by RNs (37%). During the implementation period in August, 12 patients fit the protocols and two x-rays were ordered by the RNs (16%).

Of the 26 x-rays ordered by nursing staff, two were positive for fractures. Of the 94 patients who were excluded due to the exclusion criteria, no x-rays were ordered by an RN. One x-ray was possibly ordered inappropriately by an RN (no documentation of the

SMARTPHRASE or where the patient had bone tenderness). One additional x-ray was ordered by a provider on a patient who had imaging ordered by an RN.

Patients Length of Stay

The mean difference in patient LOS in urgent care between patients who had x-rays ordered by an RN vs an HCP was 21 minutes. The average patient LOS when an RN ordered imaging was 75 minutes, compared with an average patient LOS of 96 minutes when the x-ray is ordered by an HCP. **Table 2** shows the mean LOS between patients who had imaging ordered by the RN vs an HCP. The conducted t-test gives statistical significance that the patient LOS differs across the two groups; it is 95% certain that patient LOS, on average, is anywhere from 3.9 to 38.8 minutes longer when the x-ray is ordered by a HCP rather than a RN [CI(3.9,38.8), $p=.0172$].

Nurse Satisfaction

Eleven of the 13 RNs completed the survey. **Figure 2** displays the results from the RN satisfaction survey, which included responses from these statements:

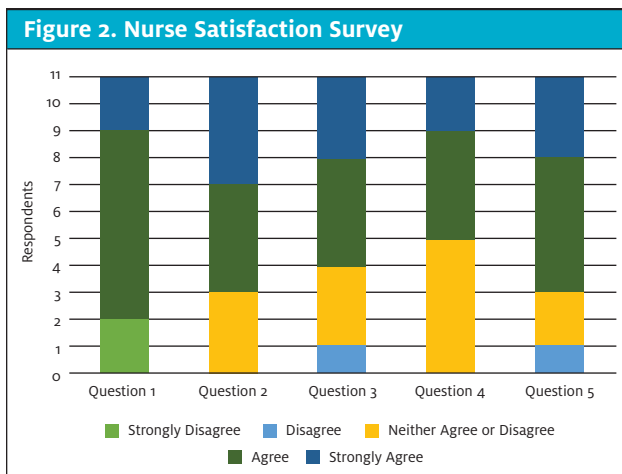
- The education session for the nursing protocols prepared me to use them in practice
- The protocols were easy to follow
- I feel confident using the nurse-initiated protocols
- With the addition of the nurse-initiated protocols, I feel more empowered as a nurse in my practice
- I feel the protocols are beneficial to patients, families, and the organization

Responses to question 1 show nine RNs agreed or strongly agreed that the educational session prepared them for use. Eight RNs agreed or strongly agreed that the protocols were easy to use and follow (question 2). In question 3, seven RNs agreed or strongly agreed that they felt confident using the NIPs. In response to question 4, six RNs agreed or strongly agreed that with the addition of the NIPs, they felt more empowered as a nurse in their practice, though five RNs neither agreed nor disagreed. Eight RNs agreed or strongly agreed that the protocols are beneficial to patients, families, and the organization (question 5).

HCP Satisfaction

Eight out of 43 HCPs completed the provider satisfaction survey. The survey contained four questions based on a five-point Likert scale:

- I believe the nurses followed the protocols accurately
- I think it is beneficial for nurses to order foot and



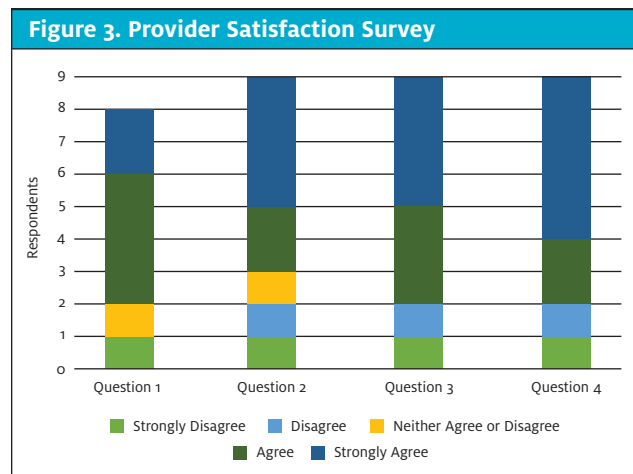
- ankle x-rays prior to my assessment
- The protocols save time for you and the patient/family
 - The protocols are beneficial to patients, families, and the organization

Figure 3 illustrates the responses to the provider satisfaction survey. In question 1, six HCPs agreed or strongly agreed the RNs followed the protocols accurately while one HCP strongly disagreed. Five HCPs agreed or strongly agreed that it is beneficial for RNs to order imaging prior to their assessment, while two strongly disagreed or disagreed (question 2). In question 3, six HCPs agreed or strongly agreed that the protocols saved time for them and the patient whereas two strongly disagreed or disagreed. Six HCPs agreed or strongly agreed that the protocols are beneficial to patients, families, and the organization (question 4).

Discussion

RNs can use NIPs accurately with proper education and training, as demonstrated by nurse accuracy data. There were 50 missed opportunities where RNs could have ordered an x-ray but did not; in other words, of the 170 patients, RNs missed 29.4% of patients. However, of the 170 patients, only one x-ray was ordered inappropriately, without clear documentation by the RN of whether the patient fit the protocol (0.006%). This is important because it shows, overall, RNs did not order x-rays when they shouldn't. Although missed opportunities are important to document and show there could be improvement in this area, it is more important to discover that RNs aren't ordering x-rays when they shouldn't because this would expose the patient to unnecessary radiation.

The data analysis also demonstrated a positive impact



"Patients had a reduced LOS when an x-ray was ordered by an RN upon arrival to UC instead of those patients who had to wait for HCP assessment before getting the x-ray."

on patients' LOS in UC. Patients had a reduced LOS when an x-ray was ordered by an RN upon arrival to UC instead of those patients who had to wait for HCP assessment before getting the x-ray. This is a significant finding because organizations should be striving to decrease patient LOS.

Nurse satisfaction was overall positive, with most RNs feeling confident using the protocols. However, one RN strongly disagreed that they felt confident using the protocols. It is vital that *every* RN is comfortable and confident using the NIPs. A reassuring finding showed the implementation of the NIPs had a positive impact on the RNs' sense of empowerment. Most of the RNs reported that NIPs brought benefits to patients, families, and the organization. Follow-up can be done with the RNs to build confidence and comfort levels in using NIPs, especially with additional opportunities to practice skills in using them.

The results of the provider satisfaction survey had primarily positive findings. Most of the HCPs reported that RNs used the protocols accurately, felt it was beneficial for RNs to order x-rays prior to their assessment, reported that the protocols save time for the patient/families, and felt the protocols are beneficial to patients, families, and the organization.

"Patient LOS can be impacted by many different factors such as short staffing, provider experience, patient volume, and number of patients with high-acuity complaints. Those variables were not factored into the patient LOS stay results."

Limitations

One limitation of this pilot study was the lack of responses to the provider satisfaction survey. Only 18.6% of HCPs submitted survey responses. As a result, we cannot conclude the responses that were received reflect the beliefs of the providers overall. Project leads sent out a reminder email to RNs to complete the survey but did not send the reminder email to HCPs, which may have been beneficial to get more responses and, therefore, more accurate HCP perception.

Another limitation of this study was the timing and location of the project. During this time, other workflow process improvement changes were taking place in this setting. Because this change took place at the same time as the implementation of NIPs, many RNs expressed that other important changes took precedence over using the NIPs. And since the project was implemented at only one clinic, it is not clear whether NIPs would be successful in other UC settings.

In addition, at present relatively few urgent care centers utilize RNs in the evaluation and treatment plan of incoming patients. As such, the generalizability of these results is unclear.

Lastly, patient LOS in UC can be impacted by many different factors such as short staffing, provider experience, patient volume in UC that day, and number of patients with high-acuity complaints that day. Those variables were not factored into the patient LOS stay results and therefore the results could be impacted.

Conclusion

NIPs are commonly used in EDs but have not been utilized in UC settings. All previous studies involving NIPs have been done in the ED and the benefits of NIPs are well established in the literature. However, UC settings are now becoming the new mainstream site for patients seeking quick medical treatment. Patient volumes in UC are increasing due to decreased cost compared with the ED, and the desire for rapid care and treatment. In

addition, UC settings are transforming themselves to perform more functions than ever before, such as providing primary care access, same-day appointments, high-quality services, and convenient care.¹⁵

The goal of this project was to implement NIPs in an urgent care setting. Overall, the results of this study were positive. However, the sustainability of the ankle and foot NIPs depends on RNs' confidence and initiated effort in using it. For this reason, we suggest that more time and exposure of the NIPs are needed before full benefits of the project are realized and for sustainability of the project. Further feedback from all staff about the NIPs and discussions on how to improve them is crucial before the protocol is implemented at other UCs. Further studies on the impact of NIPs, especially NIXR for ankle and foot injuries, are encouraged in other UC settings. ■

References

1. Bleustein C, Rothschild DB, Valen A, et al. Wait times, patient satisfaction scores, and the perception of care. *Am J Manag Care*. 2014;20(5):393-400.
2. Castner J, Grinslade S, Guay J, et al. Registered nurse scope of practice and ed complaint-specific protocols. *J Emerg Nurs*. 2013;39(5):467-473.
3. Douma MJ, Drake CA, Odochartaigh D, Smith KE. A pragmatic randomized evaluation of a nurse-initiated protocol to improve timeliness of care in an urban emergency department. *Ann Emerg Med*. 2016;68(5):546-552.
4. Curr S, Xyrichis A. Does nurse-led initiation of Ottawa Ankle Rules reduce ED length of stay? *Int Emerg Nurs*. 2015;23(4):317-322.
5. Ho JK, Chau JP, Chan JT, Yau CH. Nurse-initiated radiographic-test protocol for ankle injuries: A randomized controlled trial. *Int Emerg Nurs*. 2018;41:1-6.
6. Ho JK-M, Chau JP-C, Cheung NM-C. Effectiveness of emergency nurses' use of the Ottawa Ankle Rules to initiate radiographic tests on improving healthcare outcomes for patients with ankle injuries: a systematic review. *Int J Nurs Stud*. 2016;63:37-47.
7. Youwei L, Qunfnd L, Hua D, et al. The impact of triage nurse-ordered diagnostic studies on pediatric emergency department length of stay. *Indian J Pediatr*. 2018;85(10):849-854.
8. Lee WW, Filiatrault L, Abu-Laban RB, et al. Effect of triage nurse-initiated radiography using the Ottawa Ankle Rules on emergency department length of stay at a tertiary centre. *Canadian Journal of Emergency Medicine*. 2015;18(2):90-97. doi:10.1017/cem.2015.67
9. Robinson DJ. An integrative review: Triage protocols and the effect on ed length of stay. *CJEM*. 2013;39(4):398-408.
10. Rowe BH, Villa-Roel C, Guo X, et al. The role of triage nurse ordering on mitigating overcrowding in emergency departments: A systematic review. *Acad Emerg Med*. 2011;18(12):1349-1357.
11. Cabilan CJ, Eley R, Hughes JA, Sinnott M. Medication knowledge and willingness to nurse-initiate medications in an emergency department: a mixed-methods study. *J Adv Nurs*. 2015;72(2):396-408.
12. Stiell IG, Greenberg GH, McKnight RD, et al. Decision rules for the use of radiography in acute ankle injuries. *JAMA*. 1993;269(9):1127-1132.
13. Maclellan J, Smith T, Baserman J, Dowling S. Accuracy of the Ottawa Ankle Rules applied by non-physician providers in a pediatric emergency department. *CJEM*. 2017;20(5):746-752.
14. Melnyk BM, Fineout-Overholt E. *Evidence-Based Practice in Nursing & Healthcare: A Guide to Best Practice*. Philadelphia: Wolters Kluwer; 2019.
15. Ayers A. Urgent care 2.0: health systems taking the retail approach to the next level. *J Urgent Care Med*. September 9, 2018. Available at: <https://www.jucm.com/urgent-care-2-0-health-systems-taking-retail-approach-next-level/>. Accessed March 2019.

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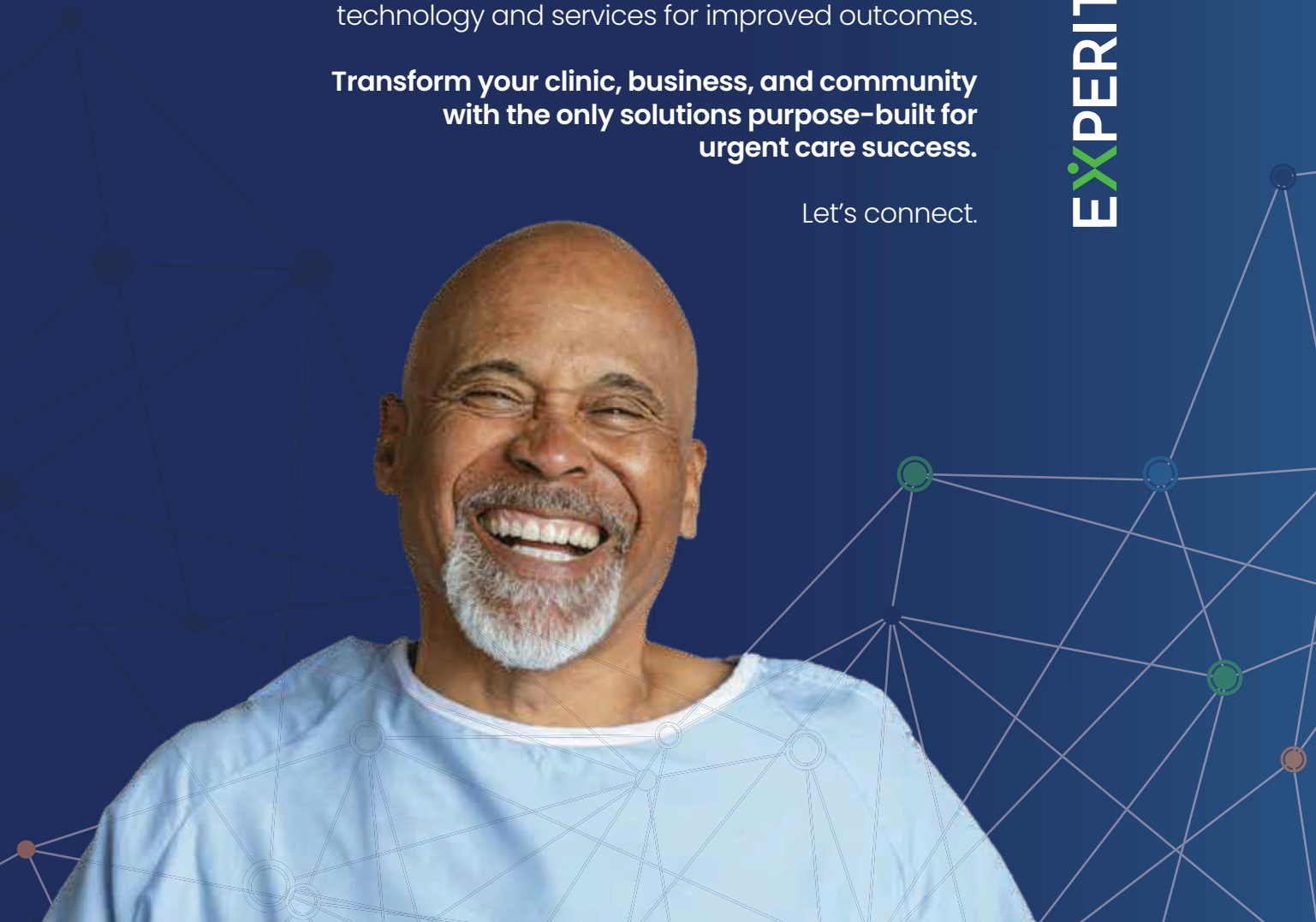
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Understanding the Benefits and Risks of Direct-to-Consumer Testing for Urgent Care

Urgent message: Urgent care centers equipped to draw blood and collect other specimens are well positioned to create new revenue streams related to the booming direct-to-consumer lab movement.

ALAN A. AYERS, MBA, MACC

People are taking more responsibility for their health than ever before. Whether that means practicing wellness promotion activities or actively seeking care without referrals, today's healthcare landscape looks much different than it did 20 years ago.

Due to its flexible nature, urgent care is poised to be at the forefront of developing trends in healthcare delivery.

Throughout 2020, the COVID-19 pandemic drove interest in self-care avenues including telehealth and self-diagnosis, either because many people were nervous about scheduling unnecessary appointments or providers were closed for nonemergent care. Even after the pandemic ends, these trends won't go away because consumers value convenient, low-cost healthcare options.

As such, the direct-to-consumer (DTC) testing model has been increasingly popular in recent years. Data cited in the *Journal Archives of Pathology & Laboratory Medicine* estimate that the DTC testing market was worth \$352.56 million in 2020 (Figure 1).¹ That marks a 17% increase from the year prior and a whopping 2,207% increase over the past decade.

With this in mind, urgent care owner/operators should be knowledgeable about the benefits and drawbacks of DTC testing as well as the implications for offering it as a service.

What Is Direct-to-Consumer Testing?

Everyone knows that healthcare relies on laboratory testing. Many diagnoses require a confirmation from the lab, while other tests are designed to put the patient's

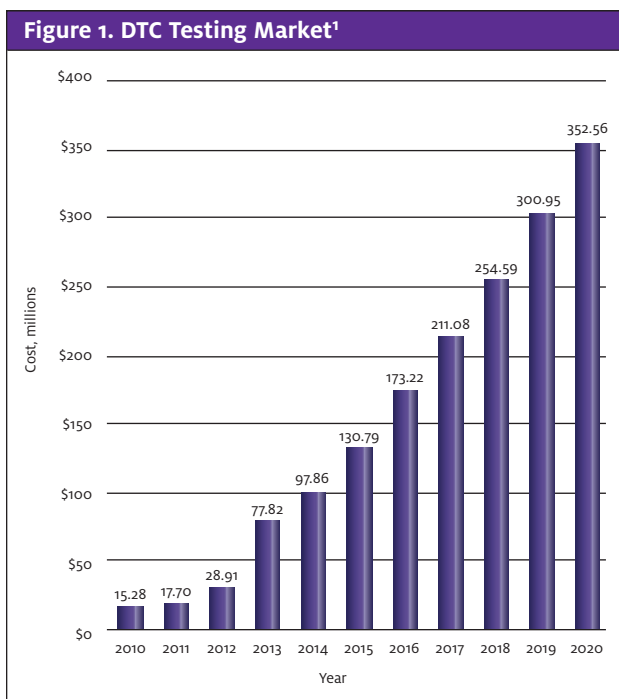


mind at ease or rule out certain conditions.

In essence, direct-to-consumer testing is what its name suggests: The consumer is able to initiate a lab test without a physician's order. Once they submit a sample to the testing agency, the results are returned directly to the consumer.

By removing the physician and wider healthcare system from the equation, consumers get their results back faster and often pay less for the service. Although DTC

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testing doesn't work with every type of lab test, most of them can be conducted without the need for a primary care visit.

What Is Direct-to-Consumer Testing Used For?

As DTC testing continues to grow in popularity, more types of tests are being supported. Some of the most common include cheek swabs, saliva, urine, hair, blood spots, and blood samples. These samples can be used to run a wide variety of tests.

Consumers can be tested for basic blood chemistries, complete blood counts, thyroid and other hormone levels, drugs, steroids, and lipid panels. Meanwhile, DTC screenings can be performed for things like cancer, sexually transmitted infections, diabetes, celiac or Crohn's disease, pregnancy, and much more.

Of course, not all DTC tests are used for medical purposes. Consumers can send in a cheek swab or saliva sample for genotyping. This information can then be used for things like uncovering one's ancestry, allergy testing, and paternity testing.

Why Patients Prefer Direct-to-Consumer Testing

The growth in DTC testing cannot be understated. It is not a coincidence that the sector is growing by millions of dollars every year. Consumers value the benefits of DTC testing, which explains the increase in demand.

A person may seek out a DTC test for many reasons, but cost and convenience are certainly at the top of the list. Following are some of the key benefits of DTC testing:

Convenience

When a consumer needs a lab test and doesn't use the DTC model, the first step is typically scheduling an appointment with their primary care provider. They then go to that appointment, get a referral for the test, and then provide a sample either at the office or at another lab facility. Next, the lab performs the test and sends the results back to the provider, who contacts the patient with their results.

- This process can take several days, if not weeks, to complete. Some patients even balk during that time and don't follow up with their lab appointments. Removing the physician from the equation significantly decreases waiting times and makes the process more convenient for consumers.
- Most DTC collection facilities don't require an appointment, which means consumers can provide a sample on their schedule, when it is most convenient.

Lower Cost

Interestingly, DTC tests typically aren't covered by insurance. On the surface, one might assume this makes them more expensive. However, that is not the case. In most cases, the cost of a DTC test is less than the copay for a primary care visit and the required laboratory charges that go with it.

On top of this, consumers can often choose which DTC testing company they want to use rather than being forced to work with whoever their insurance company dictates. This allows them to find the best price and greatest convenience.

Confidentiality

For certain tests, consumers may not want to interact with their primary care provider. Things like STI and drug screenings are highly sensitive and make many consumers uncomfortable. DTC testing provides much more confidentiality since the patient receives their results directly. They aren't reported to their primary care provider or their insurance company, which makes the entire process more confidential.

Empowerment

As noted, more and more patients are taking charge of their health. DTC testing allows them to gain knowledge about their health in many ways. Whether they

want a genetic test to look for high-risk diseases or a blood panel to provide more insight into their current state of wellness, DTC gives consumers a way to get that information. Having test results in-hand can empower consumers to make healthy lifestyle changes and encourages them to continue getting in touch with their health.

Non-Health Testing

Another area where DTC testing comes into play is for non health-related tests. The popularity of at-home DNA test kits has skyrocketed in recent years, in part because more people want to learn about their ancestry. In other cases there are questions of paternity that require a confidential answer. While most people wouldn't schedule an appointment with their doctor to get a DNA test, DTC testing gives them that option.

What Risks Are Involved with DTC Testing?

While the benefits of DTC testing are numerous, it isn't a perfect solution. There are still some drawbacks. One of the biggest problems is that consumers may receive results that include medical information they don't understand. Traditionally, the healthcare provider can break down this information to make it more digestible. DTC testing often provides consumers with raw results that are difficult to interpret. This can lead to a great deal of anxiety and confusion.

In some cases, it also causes incorrect self-diagnosis. Consumers may then undergo further testing, take medications, or endure procedures that are unnecessary. On occasion, the consumer may even need to retake the test if their primary care provider orders it, leading to additional costs and overutilization of the healthcare system.

Of course, the opposite is also possible. If a consumer gets their results and doesn't know how to interpret them, they may not seek out the necessary follow-up care. Or, worse, they may engage in dangerous "alternative" care.

Another downside is the privacy risk that comes with DTC testing. Some test providers, like 23andMe, provide de-identified patient data to pharmaceutical companies for drug research purposes. Since DTC companies aren't always covered by HIPAA, consumer privacy may not be protected.

How Does DTC Testing Affect Urgent Care?

As noted, urgent care businesses are perfectly positioned to capitalize on the increase in DTC testing. This is true for many reasons, which means that DTC testing can be

turned into a profitable, low-overhead revenue stream for most clinics.

In the U.S., there are more than 14,000 urgent care locations—each of which, potentially, could be a sample collection site. That would add up to more sample collection locations than the two largest DTC companies—Quest and LabCorp—have combined. For many consumers, submitting a test sample at an urgent care center is also more convenient, given that they are located in almost every community.

Moreover, urgent care centers can collect a much wider range of samples than other locations since they are already equipped to do so for other companies. New legislation in some states allows pharmacies to collect specimens and provide point-of-care testing.^{2,3} However, those locations are limited in what types of tests they can collect. Only basic, noninvasive tests like saliva samples and "fingerpricks" can be done. Urgent care centers are equipped to collect more invasive tests, including blood draws.

From a business standpoint, DTC test collection can be a great way to bring in extra revenue. Nurses and medical assistants who are already on-site can collect patient samples throughout the day. Since there is no need for a physician to be present, lab collections won't interrupt a clinic's normal workflow. They also don't interfere with the physician's patient-per-hour efficiency. This makes DTC test collection an ideal "cash business" for urgent care companies, as long as they have enough support staff available.

Aside from serving as a collection site for other DTC test providers, urgent care centers can offer tests directly to consumers. Advertising certain lab tests to existing patients is another great way to bring in additional revenue with low overhead costs.

Ultimately, the popularity of DTC testing will continue to grow in the wake of COVID-19 as consumers look for new ways to take control of their health. Urgent care is in a perfect position to capitalize on this trend. Serving as a lab test collection location is a great way for clinics to bring in additional revenue without interrupting their normal operations. ■

References

1. Ayala-Lopez N, Nichols JH. Benefits and risks of direct-to-consumer testing. *Arch Pathol Lab Med.* 2020;144(10):1193-1198.
2. JUCM News. Is Florida looking to cast pharmacists as primary care providers? Available at: <https://www.jucm.com/is-florida-looking-to-cast-pharmacists-as-primary-care-providers/>. Accessed April 13, 2021.
3. Ayers AA. Prescribing pharmacists: cheaper and more accessible than urgent care? *J Urgent Care Med.* 2020;14(7):41-45.



Focus On Pediatric Neurology

- Neuro Effects of COVID-19
- Melatonin and Children with Postconcussive Symptoms
- Pediatric, Sports-Related Concussion
- Acute Migraine in Children and Adolescents

■ KELSEY RIGGS, MS3 and EMILY MONTGOMERY, MD



Neurologic Manifestations of COVID-19

Take-home point: COVID-19 has a variety of presentations that include neurologic manifestations—most commonly, headaches.

Citation: Niazkar HR, Zibae B, Nasimi A, Bahri N. The neurological manifestations of COVID-19: a review article. *Neurol Sci*. 2021;41(7):1667-1671.

Relevance: More than 1/3 of patients with COVID-19 experience neurologic manifestations at some time in the disease course. Providers must be familiar with these signs and symptoms in order to ensure timely diagnosis and management.

Study summary: This was a literature review of >40 studies covering neurologic effects of COVID-19. There is a wide range of symptoms—fever, cough, chest pain, rhinorrhea, diarrhea, nausea, vomiting, fatigue, and confusion common among them—relating to all organ systems experienced by patients affected by COVID-19. Neurologic dysfunction is seen in 1/3 of patients with COVID-19 overall, although neurologic symptoms are more common in cases of severe illness. Headache is, by far, the most common CNS manifestation. Other common neurologic symptoms noted include mental status changes /delirium, which are seen most often in older populations. Patients may also experience cerebrovascular events if suffering from

severe disease. Other less common CNS manifestations include generalized tonic-clonic seizures, acute necrotizing encephalopathy, ataxia, viral encephalitis, and acute disseminated encephalomyelitis. Some studies suggest that SARS-CoV-2 may directly infect brain stem neurons, leading to disruption in the function of the cardiorespiratory regulation center. This may explain the increased prevalence of CNS manifestation in patients that are severely ill.

The most common peripheral nervous system symptoms are anosmia and dysgeusia. These symptoms, in the current era, are highly specific for COVID-19. It is hypothesized that altered taste and smell is associated with increased ACE-2 receptors on the nasal mucosa and tongue. ■

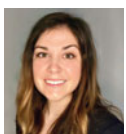
Efficacy of Melatonin in Children with Postconcussive Symptoms

Take-home point: Melatonin does not improve postconcussive symptoms in children.

Citation Barlow KM, Brooks BL, Esser MJ, et al. Efficacy of melatonin in children with postconcussive symptoms: a randomized clinical trial. *Pediatrics*. 2020;145(4):e20192812.

Relevance: About ¼ of pediatric patients will have postconcussive symptoms following mild traumatic brain injury (mTBI), which can significantly affect quality of life (QOL).

Study summary: Persistent postconcussive symptoms are poorly understood. Melatonin is known to be well tolerated and has shown neuroprotective effects in prior work. This was a randomized, double-blind, placebo-controlled study of 99 children 8 to 18 years of age receiving doses of 3 mg or 10 mg of melatonin or placebo. It was found that administration of melatonin for 4 weeks for postinjury led to no significant difference in postconcussion symptoms compared with placebo.



Kelsey Riggs, MS3 is a third-year student at the University of Kansas School of Medicine. **Emily Montgomery, MD** is director of education, Division of Urgent Care, Children's Mercy Kansas City and clinical assistant professor of pediatrics,

University of Missouri-Kansas City.

“It is important, especially for pediatric patients and their caregivers, to identify and avoid migraine triggers. Overreliance on any migraine medication, including ibuprofen and acetaminophen, can result in overuse headaches.”

Overall, 78% of patients recovered within 3 months regardless of treatment arm.

Limitations

It is hypothesized that the melatonin may exert effects through modulation of oxidative stress, which peaks 3-5 days after the initial mTBI. Therefore, melatonin may have been administered too late to play a role through this mechanism. Future studies should evaluate whether melatonin administered beginning at the time of injury improves recovery after mTBI. ■

Sports-Related Concussion in Children

Take-home point: Care for sports-related concussions in young athletes is improved through the use of a multidisciplinary approach.

Citation: Podolak OE, Arbogast KB, Master CL, et al. Pediatric sports-related concussion: an approach to care. *Am J Lifestyle Med.* January 2021. Available at: <https://journals.sagepub.com/doi/10.1177/1559827620984995>. Accessed April 14, 2021.

Relevance: Sports-related concussions are extremely common in children and can result in significant long-term disability; therefore, early recognition and appropriate management are vital.

Study summary: This was a review of literature for pediatric concussions resulting from sports. Following a symptomatic head injury, patients should be immediately removed from play and evaluated. Symptoms often fall into one of five core domains: somatic, visio-vestibular, cognitive, mood, and sleep. It is important to note that many of these symptoms may not be present immediately following the injury. Additionally, young athletes often underreport symptoms in an effort to avoid being removed from play. Emergent imaging is rarely necessary, but should be recommended when a patient experiences loss of consciousness, repeated emesis, progressive/worsening of symptoms, or persistent Glasgow Coma Score (GCS) <15.

Acute management should include assessment for deficits in one or more of the five core domains. Patients should rest

completely for at least 24-48 hours following the head injury. Following rest, concussion management should be individualized for each patient. Current recommendations focus on a gradual return to athletics and cognitive tasks/schoolwork. Persistent symptoms may require tailored strategies including aerobic exercise, visual-vestibular therapy, and psychiatry dependent on the patient's symptoms and deficits. An interdisciplinary team is crucial for such cases where postconcussive symptoms involve multiple domains. ■

Acute Treatment of Migraine in Pediatric Patients

Take-home point: Management of acute migraine in pediatric patients should focus on early intervention.

Citation: Oskoui M, Pringsheim T, Holler-Managan Y, et al. Practice guideline update summary: acute treatment of migraine in children and adolescents: report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology and the American Headache Society. *Neurology.* 2019;93(11):487-499. Epub August 14, 2019. Erratum in: *Neurology.* 2020 Jan 7;94(1):50.

Relevance: Migraine is relatively common in children and adolescents, while urgent care is a common destination for pediatric patients with migraine.

Study summary: These are consensus guidelines constructed by experts based on a systematic review of the literature. Treatment for acute migraine in children and adolescents is most effective with early recognition and intervention. Clinician assessment should begin with confirming that the headache presentation is, indeed, consistent with the patient's migraine.

Migraines are best treated early, with pharmacotherapy initiated while symptoms are still mild. Initial treatment options include ibuprofen and/or acetaminophen with standard weight-based dosing. Depending on the patient's age, specific triptans may be used if NSAIDs are not providing adequate relief. Triptans seem to be more effective for treating associated photophobia and phonophobia. Associated nausea and vomiting are best treated with antiemetics, as migraine-directed analgesics tend to treat nausea poorly. Nausea should also be considered when considering route of administration.

It is important, especially for pediatric patients and their caregivers, to identify and avoid migraine triggers. Overreliance on any migraine medication, including ibuprofen and acetaminophen, can result in overuse headaches.

Limitations: Studies on migraine treatment in children are not as common as those focused on adults; therefore, the recommendations are based on less and lower quality evidence. ■





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A 60-year old Male with Dyspnea and Hypoxemia at the Start of a Global Pandemic

Urgent message: The identification and global impact of the novel coronavirus has significantly challenged medical decision-making. Urgent care providers now consider the inclusion of the SARS-CoV-2-causing illness in their differential diagnosis when evaluating patients with signs and symptoms of an acute respiratory infection.

LOUIS COSTANZO, MD, MBA

Introduction

As of March 2021, there have been more than 28.6 million documented cases of COVID-19 in the United States, with the majority of cases in those ages 18 to 64 years of age.¹ The first documented case in the United States was confirmed on January 19, 2020 with initial mild symptoms and progressing to a viral pneumonia. Since then, patients with COVID-19 have presented with a wide range of symptoms, though the overwhelming majorities still complain of fever, cough, and dyspnea.²

During the onset of the pandemic, it was unclear when to consider a diagnosis of COVID-19 in New York, especially due to an incomplete understanding of the epidemiological characteristics of the virus at that time.

The case discussed here occurred at that time, during which the total number of reported cases in New York City was slightly over 2,000; those were associated with approximately 30 deaths. We learned valuable lessons from this experience and now consider the inclusion of the novel SARS-CoV-2-causing-illness in our differential diagnoses when evaluating patients with signs of an acute respiratory infection.



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Case Presentation

CL, a 60-year old Caucasian male with a past medical history of hypertension and hypothyroidism, presents

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Table 1. Criteria for Systemic Inflammatory Response Syndrome (SIRS)

SIRS is confirmed in patients fulfilling at least two of the following criteria:

1. Fever $>38.0^{\circ}\text{C}$ or hypothermia $<36.0^{\circ}\text{C}$
2. Tachycardia >90 beats/minute
3. Tachypnea >20 breaths/minute
4. Leukocytosis $>12,000$ mCL or leucopenia $<4,000/\text{mCL}$

Source: Bone RC, Balk RA, Cerra FB, et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest* 1992;101:1644-1655.

to urgent care with 10 days of worsening fatigue, a non-productive cough, dyspnea on exertion, and intermittent fevers. He reports traveling domestically 2 weeks beforehand and recalls fatigue as his first symptom. The fatigue gradually became debilitating as time progressed and the patient explained that he had “sudden urges to cough by the third or fourth day” and “coughing fits that would cause me to lose my breath.” The first time he took his temperature at home due to these symptoms was on day 4; it was 101°F at that time.

At this time, CL visited an urgent care facility, was diagnosed with an “upper respiratory tract infection,” and was given a Z-Pak and a prednisone taper. He felt as if the prednisone was helping to improve his cough and shortness of breath; however, his symptoms gradually worsened.

By day 9, the patient states that he would sit on the couch at home and take short, shallow breaths to prevent what he referred to as “coughing attacks” and “burning chest pains on inspiration.” CL reports living with a family member who is a healthcare worker. He denies any headaches, confusion, changes in vision, lightheadedness, syncope, numbness, or skin changes.

CL has a past medical history of stage 2 hypertension and primary hypothyroidism, managed with losartan 50 mg daily, hydrochlorothiazide 25 mg BID, and Armour Thyroid 90 mg daily. He has no history of pulmonary disease and has never been hospitalized except for a bilateral total hip arthroplasty 7 years ago. Family history is significant for paternal hypertension and type 2 diabetes, as well as lung adenocarcinoma on his mother's side. He lives at home with his wife and son, one of whom is a local healthcare worker and has recently exhibited similar symptoms.

The patient's review of systems was positive for fatigue, fever, chills, headache, appetite changes, sore throat, shortness of breath, and cough.

CL was febrile to 102.4°F and tachycardic to 110 BPM, with a SpO_2 of 84% on room air.

On physical exam, CL was tachypneic with orthostatic hypotension. He had erythema of the oropharynx with anterior cervical lymphadenopathy. Cardiovascular exam was notable for tachycardia. His pulmonary exam was remarkable for bibasilar rales and wheezing, along with increased vocal fremitus on the left.

Diagnostic Testing

At the urgent care, both rapid influenza and rapid strep tests were negative. An ECG was significant for tachycardia to 110; no ischemic changes were noted. A chest x-ray was significant for bilateral subtle lower lobe, ground-glass opacities with ill-defined patchy opacification of the left lower lobe. In a recent study involving 636 CXRs reviewed among COVID-19-positive patients in the greater New York area, ground-glass opacities or consolidation were seen on 18.9% and 5.3% of images, respectively.³ According to Weinstock, et al neither age nor gender significantly affected the likelihood of more severe CXR abnormalities in patients diagnosed with COVID-19.⁴

Differential Diagnosis

Given the recent declaration of the pandemic, the overwhelming global panic, media coverage, and provider hypervigilance, we did consider COVID-19 in our differential diagnosis. However, we had not yet seen a case of SARS-CoV-2 causing a viral pneumonia.

Our top differential diagnoses included *viral pneumonia* (commonly caused by influenza, parainfluenza, rhinovirus, adenovirus, RSV, and now SARS-CoV-2) and *bacterial pneumonia* (commonly caused by streptococcus, HiB, mycoplasma, and legionella). It is not always easy to differentiate between the two; however, pleuritic chest pain, purulent sputum, abnormal vital signs, and localized opacity on CXR generally point toward a bacterial etiology.

It is important to note that ground-glass opacities have been implicated in many diseases, including viral pneumonia.^{3,5} CL appeared toxic and met three out of four SIRS criteria (Table 1), including fever $>38^{\circ}\text{C}$ (patient: 39.1°C), tachycardia >90 BPM (patient: 102-110 BPM range), and tachypnea >20 breaths/min (patient: 24). As such, CL would need further workup for sepsis.

We considered acute bronchitis as a diagnosis, but it was not as likely given the CXR findings. Although the patient had symptoms of acute bronchitis, the cough was usually purulent and a high-grade fever is rare. While management of acute bronchitis is generally via supportive care, a 5-day azithromycin and a 6-day prednisone taper may have positively affected CL's overall hospital course.⁶

Given CL's symptoms, we also considered influenza, as some cases do present in March, though this was unlikely given negative antigen testing. We do understand that there are drawbacks to the diagnostic accuracy of rapid tests.⁷

Given the likelihood that the patient's symptoms were due to an infectious etiology, it was unlikely he was suffering from a pulmonary embolism. However, his calculated PERC (Pulmonary Embolism Rule-out Criteria) score was 3, which does not entirely rule out the possibility of a PE.⁸

Other diagnoses considered included those that were cardiac in origin; acid-base and electrolyte disturbances; drug toxicity; and anemia. Each of these was less likely, given CL's presentation and likely infectious diagnosis.

Management and Clinical Course

During the urgent care visit, the patient was asked a series of screening questions regarding symptoms, close contacts, and recent travel. His temperature was screened and he was found to be febrile. He was promptly placed in a private room and additional vital signs including SpO₂ were checked. At this time, EMS was notified, an ECG was performed, IV access was obtained, and the patient was placed on nasal cannula. CL was sent to a nearby hospital for additional workup and immediate intervention.

In the ED, the patient was managed with supplemental O₂ and broad-spectrum antibiotics. A repeat CXR confirmed ground-glass opacities and a left lower lobe pneumonia. He subsequently tested positive for COVID-19. The test was performed using the Abbot real-time polymerase chain reaction SARS-CoV-2 assay, which has both high sensitivity (93%) and high specificity (100%) for detecting the virus in clinical samples.⁹

Consequently, the patient was considered to have severe illness per NIH guidelines (see **Table 2**) and given the findings SpO₂ <94% and significant lung infiltrates.

CL was admitted for acute hypoxic respiratory failure secondary to COVID-19 pneumonia and placed in an isolation room with airborne and contact precautions. He was notably hypoxic on 10 L simple mask and was placed on high-flow nasal cannula, DVT prophylaxis, and managed with IV fluids, dexamethasone 6 mg IV qD, hydroxychloroquine + azithromycin (not currently recommended as sole COVID-19 treatment per July 17, 2020 NIH guidelines), and other antibiotics to cover for bacterial superinfection. Laboratory testing was remarkable for a slightly increased WBC count, but normal metabolic profile including renal function and LFTs, normal CRP/ESR, normal LDH, normal D-dimer,

Table 2. National Institutes of Health Clinical Spectrum of SARS-CoV-2 Infection

- Asymptomatic or presymptomatic infection—Individuals who test positive for SARS-CoV-2 using a virologic test (ie, a nucleic acid amplification test or an antigen test) but who have no symptoms that are consistent with COVID-19
- Mild illness—Individuals who have any of the various signs and symptoms of COVID-19 (eg, fever, cough, sore throat, malaise, headache, muscle pain, nausea, vomiting, diarrhea, loss of taste and smell) but who do not have shortness of breath, dyspnea, or abnormal chest imaging
- Moderate illness—Individuals who show evidence of lower respiratory disease during clinical assessment or imaging and who have saturation of oxygen (SpO₂) ≥94% on room air at sea level
- Severe illness—Individuals who have SpO₂ <94% on room air at sea level, a ratio of arterial partial pressure of oxygen to fraction of inspired oxygen (PaO₂/FiO₂) <300 mm Hg, respiratory frequency >30 breaths/min, or lung infiltrates >50%
- Critical illness—Individuals who have respiratory failure, septic shock, and/or multiple organ dysfunction

Source: National Institutes of Health. Clinical spectrum of SARS-CoV-2 infection. Updated December 17, 2020. Available at: <https://www.covid19treatmentguidelines.nih.gov/overview/clinical-spectrum/>. Accessed April 16, 2021.

and ferritin. He spent 12 days in the hospital, was afebrile by day 7, and was discharged on home O₂ with an oxygen saturation of 94% on day 12 with 2-week follow-up.

At his 2-week follow-up, the patient appeared well, but did complain of dyspnea on exertion—a common sequela of recent COVID-19 illness. A chest x-ray appeared unchanged from the previous CXR, but showed complete resolution of viral pneumonia at 6 weeks.

Discussion

Cases of SARS-CoV-2 causing COVID-19 first appeared in China in late 2019. Since then, the virus spread to nearly 180 countries and cases have been confirmed in all 50 U.S. states. The chances of dying from COVID-19 in the United States (number deaths/number confirmed cases) is approximately 3.22% (about 3.5% globally), while the crude mortality rate (number deaths/total population) is 0.053% (about 0.010% globally). This is in comparison to the 2003 SARS-CoV-1 virus with fatality rates reaching >9%.¹⁰

The CDC first reported common symptoms of COVID-19 as fever, cough, and shortness of breath. As the pandemic continues to progress, more symptoms are being documented, including those related to respiratory, cardiovascular, musculoskeletal, neurological,

and gastrointestinal systems.

Nonrespiratory symptoms typically precede the onset of respiratory symptoms in COVID-19 patients. Because of this, we may find it difficult to consider SARS-CoV-2 as the culprit of typical “urgent care” complaints. Clinical judgment is required in deciding which urgent care patients should undergo COVID-19 testing. Fortunately, there is guidance on the CDC website to help providers make well-informed clinical decisions.

“Providers should always take age and comorbidities into consideration, and reassure low-risk patients with a mild-to-moderate COVID-19 infection that they will likely be able to combat the illness on their own.”

If a patient is asymptomatic, but has been in close contact with a person of interest or someone diagnosed with COVID-19, they do not necessarily need to undergo testing. However, close follow-up is advised and that patient should monitor their symptoms, as well as self-isolate for at least 14 full days.

Symptoms of COVID-19 will generally appear within 11.5 days in those with an identifiable exposure.¹¹ If symptoms are mild to moderate (ie, without pneumonia or hypoxemia), providers should consider viral testing and encourage self-isolation until test results are received. If testing is positive, the CDC recommends self-isolation for at least 10 days from symptom onset plus resolving symptoms and >24 hours without fever. If your patient does not fulfill these criteria, they must continue to quarantine.

It is important to note that an increase in illness severity usually occurs 5-8 days after initial symptom onset.¹² In order to determine a patient’s risk for developing serious illness and adverse outcomes, we should always consider the patient’s age, comorbidities, and immunocompromised status.

About 20% of patients will exhibit signs of severe illness and may require hospitalization to manage the most common complications of COVID-19.¹³

Those with severe symptoms should be tested for COVID-19, and clinical judgment should be used when considering possible transfer to the ED.

Our patient CL showed signs of severe disease including lung consolidation and an O₂ saturation <94%, therefore requiring further management in a hospital. Those in the hospital will undergo further diagnostic

testing and treatment as per NIH guidelines, and approximately 6% will develop shock, organ dysfunction, and require mechanical ventilation in the ICU.¹⁴

The FDA approved the antiviral medication remdesivir for treatment of patients requiring hospitalization on October 22, 2020. If your patient has been diagnosed with COVID-19 at urgent care and is managed on an outpatient basis, encourage them to stay home, practice good hand hygiene, disinfect surfaces that they use, remain hydrated, take over-the-counter medications for fever and myalgia, avoid close-contacts or wear a mask around others, and closely monitor their symptoms for poor progression.

Providers should always take age and comorbidities into consideration, and reassure low-risk patients with a mild-to-moderate COVID-19 infection that they will likely be able to combat the illness on their own, as well as educate patients on the importance of close follow-up and indications for seeking emergency care. Urgent care providers should always consider transfer to the emergency department if patients exhibit signs and symptoms of severe COVID-19 illness. ■

References

- Centers for Disease Control and Prevention. COVID Data Tracker. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>. Accessed March 30, 2021.
- Holshue M, DeBolt C, Lindquist S, et al. First case of 2019 novel coronavirus in the United States. *N Engl J Med*. 2020;382(10):929-936.
- Weinstock MB, Echenique A, Russell JW, et al. Chest x-ray findings in 636 ambulatory patients with COVID-19 presenting to an urgent care center: a normal chest x-ray is no guarantee. *J Urgent Care Med*. 2020;14(7):13-18.
- Russell J, Echenique A, Daugherty SR, Weinstock M. Chest x-ray findings among urgent care patients with COVID-19 are not affected by patient age or gender: a retrospective cohort study of 636 ambulatory patients. *J Urgent Care Med*. 2020;14(10):29-34.
- Kim EA, Lee KS, Primack SL, et al. Viral pneumonias in adults: radiologic and pathologic findings. *RadioGraphics*. 2002;22(Suppl_1):S137-S149.
- Saiz-Rodríguez M, Peña T, Lázaro L, et al. Outpatient treatment of COVID-19 with steroids in the phase of mild pneumonia without the need for admission as an opportunity to modify the course of the disease: a structured summary of a randomised controlled trial. *Trials*. 2020;21(1):632.
- Peci A, Winter A, King E, et al. Performance of rapid influenza diagnostic testing in outbreak settings. *J Clin Microbiol*. 2014;52(12):4309-4317.
- Freund Y, Rousseau A, Guyot-Rousseau F, et al. PERC rule to exclude the diagnosis of pulmonary embolism in emergency low-risk patients: study protocol for the PROPER randomized controlled study. *Trials*. 2015;16:537.
- Degli-Angeli E, Dragavon J, Huang M, et al. Validation and verification of the Abbott RealTime SARS-CoV-2 assay analytical and clinical performance. *J Clin Virol*. 2020;129:104474.
- Ritchie H, Ortiz-Ospina E, Beltekian D, et al. Coronavirus pandemic (COVID-19). Our World in Data. Available at: <https://ourworldindata.org/coronavirus>. Accessed April 9, 2021.
- Lauer SA, Grantz KH, Bi Q, et al. The incubation period of coronavirus disease 2019 (COVID-19) from publicly reported confirmed cases: estimation and application. *Ann Intern Med*. 2020;172(9):577-582.
- Centers for Disease Control and Prevention. Clinical Care Guidance. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html#clinical-management-treatment%3C>. Accessed April 9, 2021.
- McIntosh K, Hirsch M, Bloom A. COVID-19: clinical features. In: UpToDate. Available at: [www.uptodate.com/contents/covid-19-clinical-features#:~:text=Severe%20disease%20\(eg%2C%20with%20hypoxia,medical%20comorbidities%20\(table%201.](http://www.uptodate.com/contents/covid-19-clinical-features#:~:text=Severe%20disease%20(eg%2C%20with%20hypoxia,medical%20comorbidities%20(table%201.) Accessed March 30, 2021.
- Worldometers.info. Coronavirus cases: reported cases and deaths by country or territory. Available at: https://www.worldometers.info/coronavirus/?utm_campaign=instagmcoach%3F_. Accessed April 9, 2021.

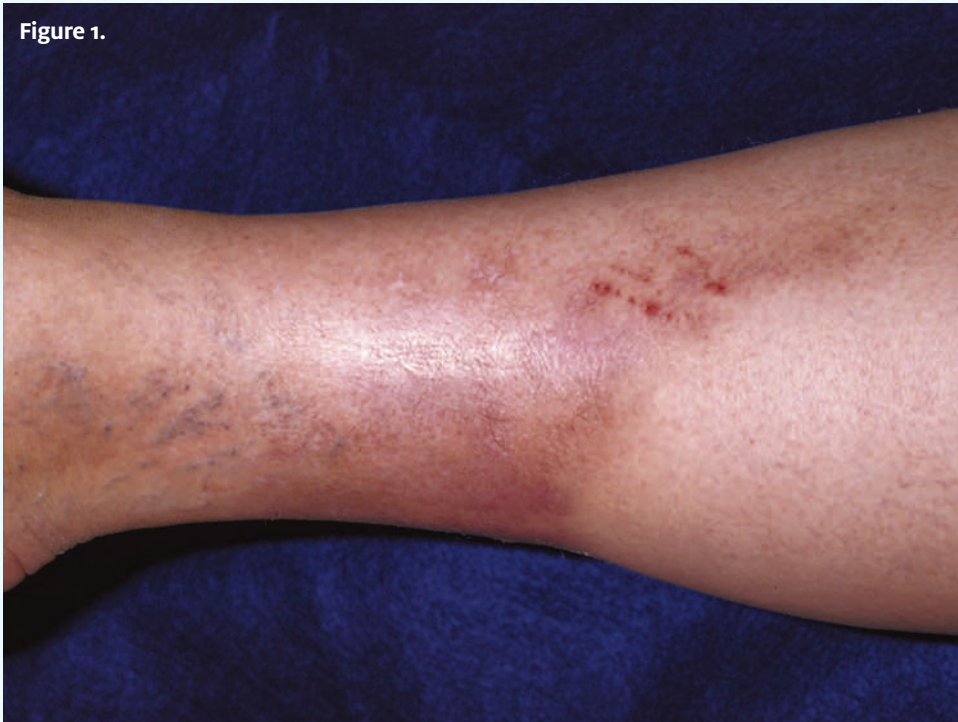


In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of conditions that real urgent care patients have presented with.

If you would like to submit a case for consideration, please e-mail the relevant materials and presenting information to editor@jucm.com.

A 46-Year-Old Woman with a Painful, Erythematous Plaque on Her leg

Figure 1.



Case

The patient is a 46-year-old female who presents with a painful, erythematous, indurated plaque on her lower leg. She reports that it developed over the past month. At first she attributed the pain to “a bump” of unknown origin, but as the area of red skin expanded she became concerned, as she reports a history of deep-vein thrombosis.

View the image taken and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

Figure 2.

**Differential Diagnosis**

- Lipodermatosclerosis
- Cellulitis
- Erythema nodosum
- Necrobiosis lipoidica

Diagnosis

This patient was diagnosed with lipodermatosclerosis, also known as lipomembranous panniculitis, sclerosing panniculitis, venous liposclerosis, and hypodermis sclerodermiformis. This is an inflammation of subcutaneous fat, usually on the lower extremities, secondary to chronic venous insufficiency.

Learnings/What to Look for

- Lipodermatosclerosis is classified as acute if present for less than 1 month and appears as a localized, exquisitely tender, erythematous, indurated plaque

- Subacute lipodermatosclerosis (present for 1 month to 1 year) and chronic lipodermatosclerosis (more than 1 year) appear as a nontender, hyperpigmented, sclerotic plaque which can contain venous ulcers
- Advanced lipodermatosclerosis on the lower leg has the appearance of an "inverted champagne bottle," whereby the proximal leg is edematous from chronic venous stasis while the lower portion of the leg is atrophied and sclerotic from fat necrosis (or lipodystrophy) and scarred from chronic ulcerations

Pearls for Urgent Care Management

- First-line treatment for lipodermatosclerosis is compression therapy to improve venous insufficiency
- Anticlotting medications, weight loss in obese patients, and elevation are helpful for venous insufficiency in general
- Surgery may be required for persistent cases

Acknowledgment: Images and case presented by VisualDx (www.VisualDx.com/JUCM).



A 67-Year-Old on Dialysis with Syncope

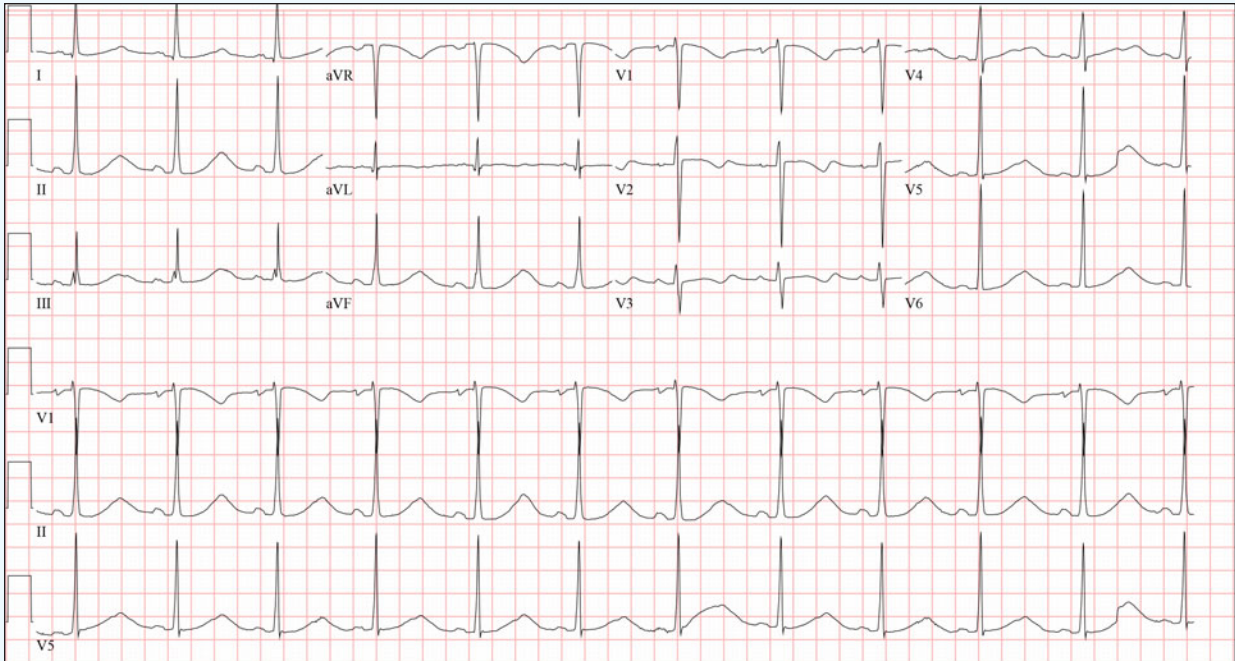


Figure 1.

History: A 67-year-old female presents to urgent care complaining of one episode of syncope earlier in the day. No seizure-like activity was noted by the family and she returned to baseline within a minute. She has a past medical history of end-stage renal disease on scheduled hemodialysis, hypertension, diabetes, coronary artery disease, and chronic nausea. Medications include aspirin, insulin, amlodipine, hydralazine, ondansetron, metoclopramide, and amiodarone.

View the ECG taken and consider what your diagnosis and next steps would be.

(Case presented by Jonathan Giordano, DO, MS, MEd, The University of Texas Health Science Center at Houston/McGovern Medical School.)

THE RESOLUTION

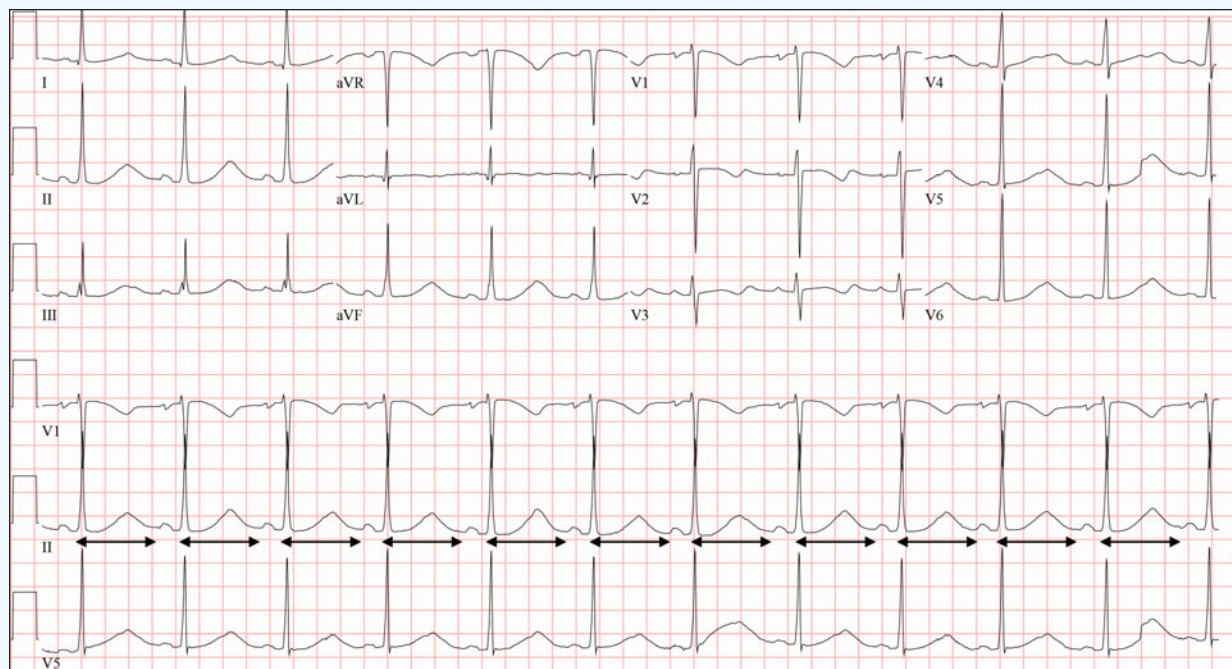


Figure 2. The QT interval, denoted by arrows, is over 600 msec.

Differential Diagnosis

- ST-Elevation MI (STEMI)
- Brugada pattern
- Diffuse subendocardial ischemia
- Hyperkalemia
- Long QT

Diagnosis

Long QT. The ECG reveals a regular, narrow-complex, sinus rhythm at a rate of 72 beats per minute. There is a normal axis and normal PR and QRS intervals. The QT interval is prolonged. There are no signs of acute ischemia. This ECG is consistent with neither ST-elevation MI nor diffuse subendocardial ischemia. There are no findings of hyperkalemia (ie, peaked T waves, widened QRS), and the ECG does not demonstrate the Brugada pattern (ie, coved ST-segment in lead V1 >2 mm or >1mm in V1-V3 followed by a negative T-wave).

Measuring the QT interval

The QT interval is measured from the start of the Q wave through the end of the T wave (or U wave if present) and represents the time from ventricular depolarization through ventricular repolarization.¹ The QT interval is inversely proportional to the heart rate—meaning the QT interval will shorten with faster heart rates, and lengthen at slower heart rates.

In order to standardize for heart rate, multiple formulas are

available for a corrected QT interval (QTc), including the Bazett, Framingham, and Fridericia, among others.

A normal QTc is typically described as less than 440 msec in men, and 460 msec in women. The easiest way to remember risk associated with prolonged QT is an interval greater than 500 msec, which is associated with an increased risk of ventricular dysrhythmias, particularly torsades de pointes (TdP), a type of polymorphic ventricular tachycardia.

Causes of prolonged QT

There are many causes of prolonged QT intervals, including:²

- hypokalemia
- hypomagnesemia
- hypocalcemia
- hypothermia
- congenital long QT syndrome
- myocardial ischemia
- elevated intracranial pressure
- medications

Management

Management is focused on the prevention of syncope and sudden cardiac death.³ Emergency treatment typically involves electrolyte repletion/treating the underlying cause and removal of the offending agent if medication- or drug-induced. Overdrive pacing is also a treatment option as the QT interval is in-

THE RESOLUTION

versely proportional to the heart rate (meaning the paced tachycardia is protective in patients with long QT).⁴

Syncope in the setting of a long QT should be viewed as secondary to a ventricular dysrhythmia until proven otherwise; patients should be admitted for telemetry monitoring.

The patient in the clinical scenario described here was determined to have a prolonged QT interval secondary to multiple medications she was taking—ondansetron, metoclopramide, and amiodarone.

Learnings/What to Look for

- A prolonged QT interval is associated with an increased risk of ventricular dysrhythmias, particularly TdP
- A prolonged QT can be caused by many different etiologies
- History and medication list review is imperative in patients with long QT
- Patients with syncope in the setting of a long QT should be admitted for telemetry monitoring and treatment of the underlying cause

Pearls for Urgent Care Management

- In patients with syncope, obtain an ECG and look specifically for a QTc >500ms, Wolff-Parkinson-White (WPW), Brugada, hypertrophic cardiomyopathy, ischemia, or findings associated with electrolyte abnormalities
- Patients with long QT should be placed on telemetry and monitored for ventricular dysrhythmias
- Identify and initiate treatment of the underlying cause
- Patients with symptoms which could be attributed to a prolonged QT interval (eg, syncope) should be transferred to a facility capable of providing telemetry monitoring

References

1. Postema P, Wilde A. The measurement of the QT interval. *Curr Cardiol Rev.* 2014;10(3):287-294.
2. Diercks DB, Shumaik GM, Harrigan RA, et al. Electrocardiographic manifestations: electrolyte abnormalities. *J Emerg Med.* 2004;27(2):153-160.
3. Shah SR, Park K, Alweis R. Long QT syndrome: a comprehensive review of the literature and current evidence. *Curr Probl Cardiol.* 2019;44(3):92-106.
4. Charlton NP, Lawrence DT, Brady WJ, et al. Termination of drug-induced torsades de pointes with overdrive pacing. *Am J Emerg Med.* 2010;28(1):95-102.

Acknowledgment: JUCM appreciates the assistance of ECG Stampede (www.ecgstampede.com) in sourcing content for electrocardiogram-based cases for Insights in Images each month.

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A 36-Year-Old Man with Wrist Pain After a Traumatic Impact

Figure 1.



Figure 2.



Case

The patient is a 36-year-old man who presents with wrist pain after “hitting it on something.” Further history reveals that he punched a wall in a fit of anger and felt sharp pain immediately. He has no past medical history and takes no medications.

View the images taken and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

Figure 1.



Figure 2.

**Differential Diagnosis**

- Capitate fracture
- Coronal fracture of the body of the hamate with dorsal metacarpal dislocation
- Pisiform fracture
- Triquetrum fracture

Diagnosis

The AP view of this right hand series shows a displaced coronal fracture of the hamate located on the dorsal aspect of the distal carpal row. The oblique view reveals dorsal metacarpal dislocation of the 5th metacarpal. These views also show an overlap of the 4th and 5th metacarpals with the hamate which supports the dislocation component of this injury.

The correct diagnosis is a coronal fracture of the body of the hamate with dorsal metacarpal dislocation of the 5th and likely also the 4th metacarpal—an uncommon injury that accounts for <2% of all carpal bone fractures.

Learnings/What to Look for

- The typical mechanism of injury for this diagnosis is direct impact against a hard surface with a clenched fist in ulnar deviation and palmar flexion (flexion produces metacarpal dislocations)
- The hamate fracture may be associated with 4th or 5th metacarpal base fractures or dislocations which are present in approximately 15% of cases
- Hamatometacarpal fracture-dislocation may be missed at initial presentation, in up to 71% in some studies
- Routine radiographic evaluation with only anteroposterior and lateral views of the wrist may not reveal the lesion, being only visible with an oblique view of 30° of forearm pronation

Pearls for Urgent Care Management

- A high-resolution CT scan of the wrist is considered mandatory to completely evaluate these injuries and determine appropriate treatment
- Open reduction and internal fixation is likely to be required

Acknowledgment: Images and case presented by Experity Teleradiology (www.experityhealth.com/teleradiology).



What the #@^&* Is Going on with E/M Code Levels?

■ MONTE SANDLER

After 25 years of utilizing the 1995 evaluation and management (E/M) coding guidelines, the E/M world changed on January 1, 2021.

The COVID-19 pandemic, coupled with new E/M coding guidelines and constantly changing regulations, has changed the way we deliver urgent care. With all that happened over the past 12 months, how do we even begin to figure out the impact?

Let's break it down! It is not as easy as comparing 2020 coding levels to our 2021 data. Again, the culprit is the pandemic.

During 2019 before the pandemic, national urgent care coding levels were very steady and predictable. On a national basis, new patient E/M levels averaged 3.4. At the same time, established patient E/M visits averaged 3.6.

During the pandemic, urgent care visits changed dramatically as most centers pivoted to deliver critical COVID-19 testing in offices and in parking lots. Providers began to embrace telemedicine in new ways to manage patient volume and mitigate risk.

This shift had a major impact on coding levels prior to the 2021 American Medical Association coding changes. The complexity of these testing visits is much lower than a traditional urgent care visit. The national lockdown and subsequent local rules restricting youth sports reduced visits (and revenue) for historically bread-and-butter ailments like sprained ankles, and the number of people presenting with flu during 2020 dropped significantly—in fact, in some areas, flu was virtually nonexistent.

Many clinics saw patients for the first time when they presented seeking COVID-19 tests. Data from Experity indicate that the percent of new patients grew from 39% of total volume to nearly half of all visits.

For many urgent care operators, the impact of lower-acuity visits was offset by this increase in new patients. The increased

Table 1. National CMS Rates

CPT	2020	2021	Difference	Percent change
New Patient Codes				
99202	\$77.23	\$73.97	-\$3.26	-\$4.22%
99203	\$109.35	\$113.75	+\$4.40	+\$4.02%
99204	\$167.10	\$169.93	+\$2.83	+\$1.69%
99205	\$211.12	\$224.36	+\$13.24	+\$6.27%
Established Patient Codes				
99212	\$46.20	\$56.88	+\$10.68	+\$23.12%
99213	\$76.15	\$92.47	+\$16.32	+\$21.43%
99214	\$110.43	\$131.20	+\$20.77	+\$18.81%
99215	\$148.33	\$183.19	+\$34.86	+\$23.50%
Total	\$945.91	\$1045.75	+\$99.84	+\$10.55%

volume offset the reduced levels and resulted in an overall increase in total revenue. Through marketing efforts and best practices for continued patient engagement, these new patients can become returning patients helping to secure higher visit volumes moving forward.

Experity has been tracking these changes very closely. Our data from almost 3,000 urgent care centers across the United States show that in January 2021 average coding levels fell 18% to 20%.

During the month of February, most centers saw a rebound upward of 8% to 10%. The nonscientific explanation of this rebound could be the result of a learning curve as providers adjust to the new AMA coding rules.

On the surface, a 10% potential decrease in revenue looks terrible. Don't throw in the towel, though, as there is a glimmer of hope and the actual financial impact of this change is likely much less.

Effective January 1, 2021, the Centers for Medicare & Medicaid Services posted revised allowables by increasing the work-ex-



Monte Sandler is Executive Vice President, Revenue Cycle Management of Experity (formerly DocuTAP and Practice Velocity).

pense portion of relative value units (RVUs) for each of the coding levels. (National rates are displayed in **Table 1.**)

On average, new-patient allowables increased by just 1.94% while existing patient allowables increased by 21.7%. While these rates apply to most government payers, we believe that most commercial payers will follow on their own schedules, as many fee schedules are based on a percentage of Medicare.

As we move back to normalcy and experience a shift back to traditional urgent care visits, we expect visit acuity to return to pre-COVID-19 levels (reduced by the 10% estimated impact of the new AMA rules).

If historical new/existing distribution of patients returns (approximately 50/50) and third-party payers adopt the CMS-revised allowables per E/M, we expect that Average Revenue Per Visit (ARPV) should follow, making all this chaos negligible from a financial perspective.

It should also be noted that the new COVID-19 patients seen during 2020 will all be considered existing patients on their next visit. Thus, you could see increased reimbursement on these patients as the average reimbursement per-code on the existing patients increased around 20%.

Experity will continue tracking both coding and reimbursement levels and keep you posted periodically. ■

For More Information

Monte Sandler has written extensively for *JUCM* about changes in coding guidelines for 2021, going back into 2020. Following are some highlights for your reference, including citations for accessing those articles:

- Looking Forward to 2021. *JUCM*, November 2020. Available at: <https://www.jucm.com/looking-forward-to-2021/>
- FAQ: New E/M Guidelines. *JUCM*, January 2021. Available at: <https://www.jucm.com/faq-new-e-m-guidelines/>
- Last Minute Coding Changes for 2021. *JUCM*, February 2021. Available at: <https://www.jucm.com/last-minute-coding-changes-for-2021/>
- New Technical Corrections Issued by the AMA Explained. *JUCM*, April 2021. Available at: <https://www.jucm.com/new-technical-corrections-issued-by-the-ama-explained/>

In addition, the American Medical Association published a document entitled CPT Evaluation and Management (E/M), Office or Other Outpatient (99202-99215) and Prolonged Services (99354, 99355, 99356, 99417) Code and Guideline Changes. It's available at <https://www.ama-assn.org/system/files/2019-06/cpt-office-prolonged-svs-code-changes.pdf>.

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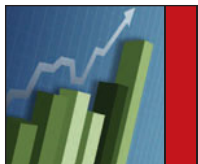
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Pandemic Fluctuations: A Historic Drop, Then a Meteoric Rise in Patient Visits Per Day

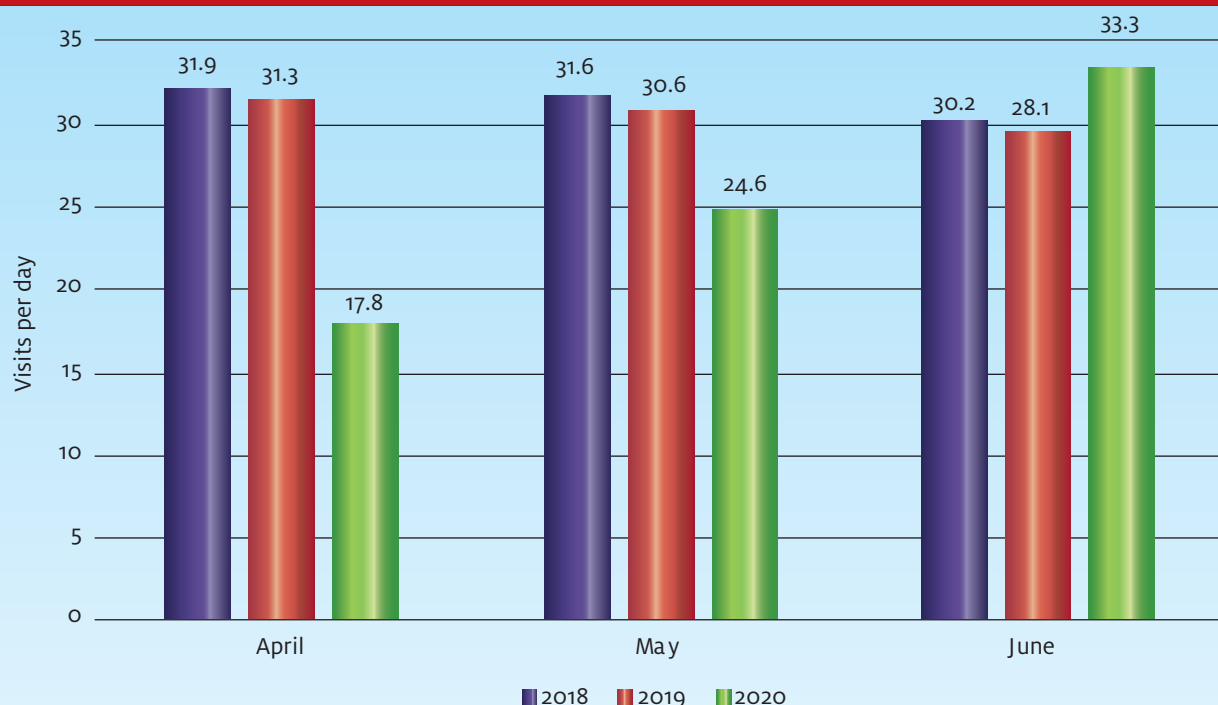
Just to confirm, the COVID-19 pandemic has generally not been kind to the urgent care industry. Locations that could get their hands on testing supplies at the outset were inundated with patients clamoring to know if they had the virus. The many facilities that got shut out of test distribution chains suffered greatly, though—as did the industry as a whole.

Now, even as case loads continue to climb again in many states, the public's panic has subsided and people are eager to start doing routine things again. Even typically less-than-pleasant things like going to an urgent care center with a sore throat could be viewed by some as an excursion after months of social distancing.

The good news (*really* good news) from the Urgent Care Association's 2021 *Spring Benchmarking Report* is that the public started returning to urgent care centers as quickly as they vanished. Based on data offered by Experity, the report shows that after a drop to historic lows in April 2020, by June patient visits per clinic per day were at their highest second-quarter level in several years.

Check out the graph below for more details. (And for more information on the report, including details on purchasing a copy, visit <https://www.ucaoa.org/Resources/Industry/Benchmarking>.) ■

AVERAGE VISITS, PER URGENT CARE CLINIC PER DAY, SECOND QUARTER 2018–2020



Data source: Urgent Care Association 2021 *Spring Benchmarking Report*, per data supplied by Experity.



Urgent Care Quarterly
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The Effect of COVID-19 on Reimbursement in 2020

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