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URGENT CARE ASSOCIATION

COLLEGE OF URGENT CARE MEDICINE

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Keeping the Patient In-House Starts with Proper Imaging

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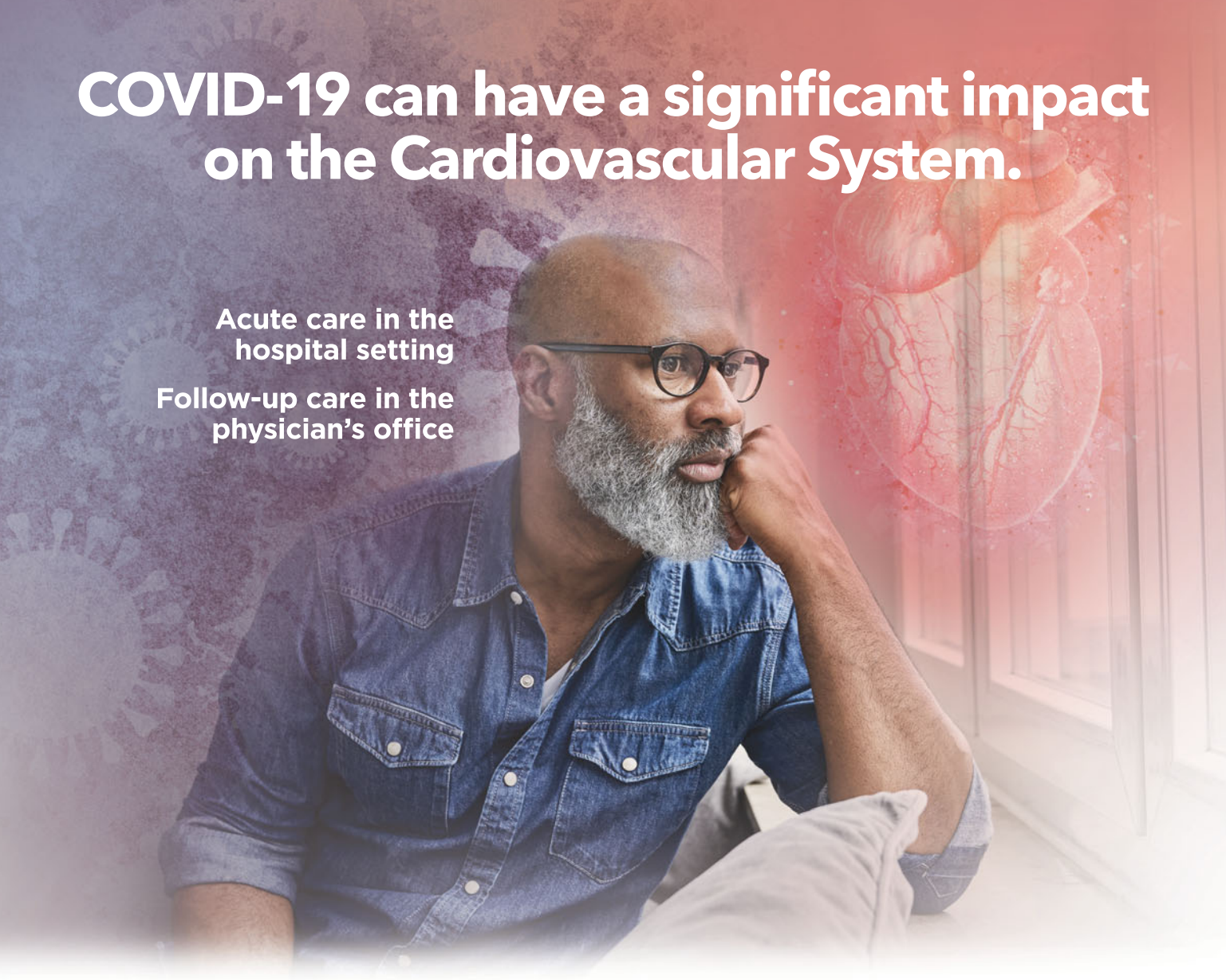
The Doctor Is Out. Is It Safe to Let the Patients In?

COVID-19 can have a significant impact on the Cardiovascular System.



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When Walk-Ins Aren't Welcome

Patient volume has always been a delicate topic between the clinical staff and administrators of urgent care centers. It's no secret who stands where in this ongoing debate. Regardless of each side's opinions, UC volume has been largely stochastic historically, fluctuating at its own whim without regard for who wishes it were higher or lower.

Things are different now, though. Thanks to COVID, UC overcrowding has become the new ED overcrowding—ubiquitous.

The large volumes of COVID-related visits have guaranteed that virtually every UC center in the U.S. is filled from open to close with appropriately low-acuity patients. In many ways, this presents itself as the holy grail for UC administrators because the largest obstacle to fiscal sustainability has suddenly vanished. Before the pandemic, UC owners made intensive efforts strategizing and marketing to employers and schools, patients, and physicians. These attempts to drive reliable patient volume into their clinics took the form of service lines such as workman's compensation, sports physicals, and x-ray services.

Things are different now. When UC staff arrive to work, there is predictably a gaggle of patients outside the door waiting to be seen every morning.

I should be clear that there's nothing wrong with desiring a predictable number of patients. In a business model with relatively fixed overhead, this is integral to remaining solvent. Many, if not most, UC operations' leaders have even invested in patient queuing software to smooth the distribution of volume, both to lessen the burden of surges on providers and to inform patients' expectations for wait times. Such software is an incredibly valuable tool when used as intended.

A concerning trend, however, in COVID-era urgent care is the over-reliance on online bookings and reservations, especially those made days in advance. I have heard from countless patients and friends about the frustrations they'd had when trying to find an urgent care center where they could be seen for non-COVID, acute issues like twisted ankles and nosebleeds.

This is not an issue of a single UC clinic or organization, either. These complaints have come from people living in urban or suburban areas with at least a dozen UC centers within a 5-mile radius. It seems the walk-in slots everywhere have become

vanishingly uncommon, as a clinic's time is now booked a week in advance instead by asymptomatic families needing testing before their upcoming trip to Hawaii.

While travel COVID testing and other COVID-related visits do certainly spell reliable volume, UC centers have an obligation to find ways to accommodate patients who truly need some sort of immediate attention. Much of our stated mission in urgent care, historically, has been to fill the gaps in access for people requiring unscheduled, episodic care. This goal of providing access depends on our ability to accommodate walk-ins. And we've worked too hard for the past several decades, slowly gaining the public's confidence, for us to squander it by allowing UC centers to be transformed wholly into COVID convenience centers.

The refrains of countless UC patients in pre-pandemic times were gratitude for us being able to see them, coupled with frustrations about how hard it was to get in to see their PCPs. This was a large reason for the initial development of urgent care, after all: to fill the needs created by the trend of primary care clinics accepting fewer and fewer same-day appointments for acute issues. Unfortunately, UC has recently now become the target of similar and well-founded complaints about inaccessibility.

Now, without question, COVID-related concerns will continue to comprise the bulk of low-acuity needs for the foreseeable future. America's network of UC centers has played, and will continue to play, a vital role in supporting our response

to the pandemic. However, during the fall of 2021, there was an average of about 1.5 million daily COVID tests being run in the U.S daily (excluding home-based test kits). If all these tests were run in UC centers, this would amount to over 100 patients per center each day for COVID testing alone; clearly, UC can't shoulder the burden of providing these services alone. And by trying to see as many COVID visits per day as possible, we are inadvertently crowding out the patients who supported our UC centers in pre-pandemic times, leaving them to look elsewhere for immediate attention—often choosing telemedicine services instead.

Of additional concern, this current narrative that's unfolding unfortunately corroborates a common criticism that many UC skeptics have been hurling at us for years. While we have asserted that we are concerned with creating affordable, on-demand healthcare access, our critics have understandably questioned this. They cite the trend that UC centers tend to be located predominantly in areas with a "favorable payer mix" rather than in rural and inner-city areas where healthcare access is most precarious. I've worked with too many UC leaders over the years who're passionate about social justice and equity to accept this portrayal of our community as predominantly profit-focused. However, if we continue to prioritize COVID testing above all else, it will become harder and harder to reconcile our words of concern for access with our actions.

Thankfully, choosing between having capacity for walk-ins and COVID testing is not an "either-or" sort of dilemma. A number of UC centers have had great success by opening separate, often drive-thru, testing centers. This has the advantage of directing potentially infectious patients away from the clinic and maximizing testing throughput by cohorting patients who are in need of similar services. Furthermore, an efficient experience at the affiliated testing center provides free promotion for the UC clinic's flagship site and naturally facilitates less crowding of the companion clinic. It's a win-win.

This is just one of many possible solutions to this crisis of access we are facing. Continuing to offer timely service is imperative, as it is what has allowed us to continue to grow and compete with other convenience-based methods of care delivery, such as telemedicine. After all, ease of access and convenience have always been central to our value proposition in UC. But when walk-ins aren't welcome, urgent care has lost its way. This may be a crisis we never thought we'd have to deal with, but it's a problem our patients won't allow us to ignore for long. ■

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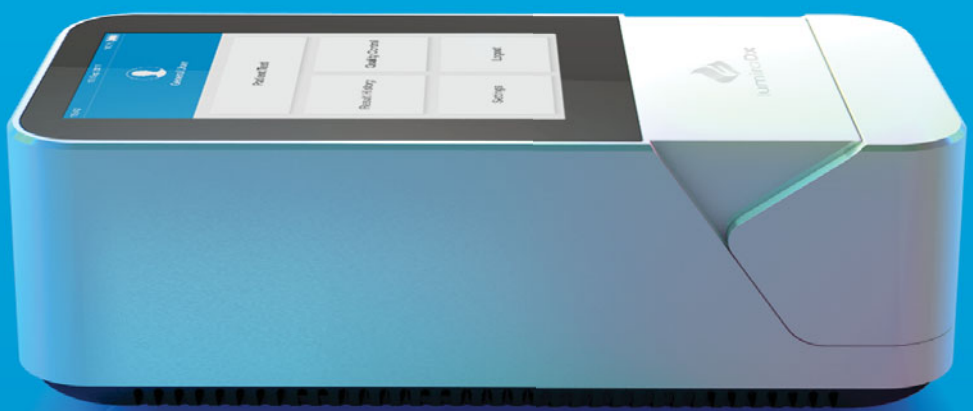

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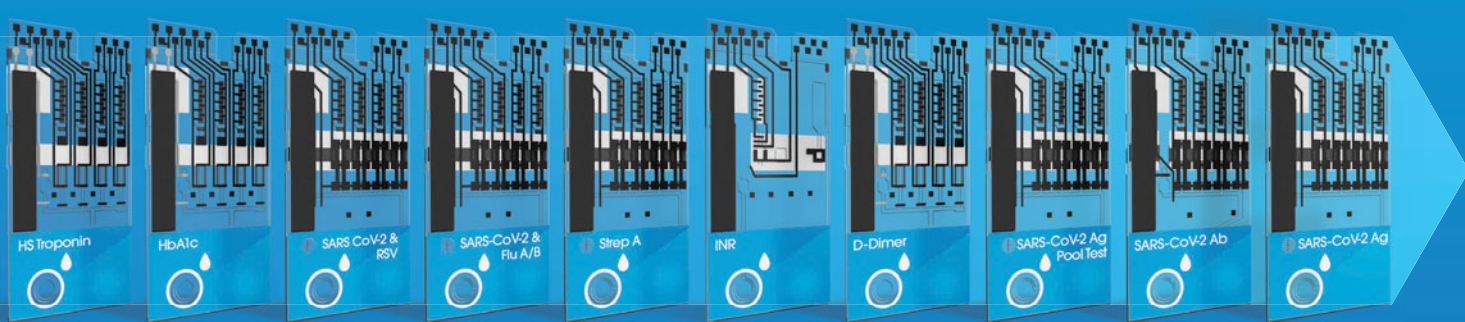

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CLINICAL

13 Management of Scaphoid Injuries with Early Specialized Imaging at Urgent Care Clinics

The correct diagnosis is dependent upon the correct tools. That includes choosing the best imaging option at your disposal. Make the right choice and you'll stand a good chance of being able to treat the patient in your clinic, rather than referring them to a higher-acuity setting.

Muhammad Asim, MBBS, FRNZCUC, FRNZCGP and Rabeeah Asim, MBBS

HEALTH LAW AND COMPLIANCE

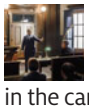
19 What's the Best Policy for Unlocking an Urgent Care's Doors when a Provider Isn't Present?

"We can't let patients in until the doctor gets here." You—and just as importantly, patients—may hear that all the time. The question is, why? It's a more complex question than it seems.

Alan A. Ayers, MBA, MAcc

ORIGINAL RESEARCH

23 *See You in Court:* Practice and Documentation Change from a Mock Trial



There's nothing frivolous about a "mock" trial. In fact, mock trials can offer tremendous opportunities for learning not just about putting forth a good defense in the event of a malpractice suit, but about improvements in the care you provide (thereby lowering your risk to find yourself in the real thing).

Michael Weinstock, MD; Kaetha Frost, DO; Heath Jolliff, DO; Amal Mattu, MD; Seth McIntire, DO; Marc Calvert, JD; Mark Kitrick, JD; and Matt Delaney, MD

CASE REPORT

28 Posterior Shoulder Pain—Not Always a Muscle Spasm

A common complaint should not be presumed to be due to a common diagnosis. Developing a broad differential diagnosis is essential to optimizing the patient's chance for a positive outcome.

Richard A Ginnetti, MD, MBA, CPE and Justin Holschbach, MD

NEXT MONTH IN *JUCM*

Urgent care providers are perfectly capable of, and have the resources for, administering care to most patients with truly nonemergent complaints. So why do so many of those patients wind up getting referred to the emergency room—and, more importantly, is there anything we can do about that? It's a timely an important question that is addressed in an original research article we look forward to presenting in the March issue of *JUCM*.

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EDITOR-IN-CHIEF
Joshua W. Russell, MD, MSc, FCUCM, FACEP
editor@jucm.com

EXECUTIVE EDITOR
Harris Fleming
hfleming@jucm.com

SENIOR EDITOR, PRACTICE MANAGEMENT
Alan A. Ayers, MBA, MAcc

SENIOR EDITOR, CLINICAL
Michael B. Weinstock, MD

SENIOR EDITOR, RESEARCH
Andy Barnett, MD, FACEP, FAAFP

EDITOR, PEDIATRICS
David J. Mathison, MD, MBA

EDITOR, IMAGES
Lindsey Fish, MD

CONTRIBUTING EDITOR
Monte Sandler

SENIOR ART DIRECTOR
Tom DePrenda
tdeprenda@jucm.com

CLINICAL CONTENT MANAGER
Yijung Russell, MD

BRAVEHEART PUBLISHING

11 E Sundial Circle, Carefree, AZ 85377-5156

PUBLISHER AND ADVERTISING SALES
Stuart Williams
swilliams@jucm.com • (480) 245-6400

CLASSIFIED AND RECRUITMENT ADVERTISING
Kevin Vidou
Kevin.Vidou@communitybrands.com • 727-497-6565 x3381

Mission Statement
JUCM The Journal of Urgent Care Medicine (ISSN 19380011) supports the evolution of urgent care medicine by creating content that addresses both the clinical practice of urgent care medicine and the practice management challenges of keeping pace with an ever-changing healthcare marketplace. As the Official Publication of the Urgent Care Association and the College of Urgent Care Medicine, *JUCM* seeks to provide a forum for the exchange of ideas regarding the clinical and business best-practices for running an urgent care center.

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Correct diagnosis and prompt initiation of treatment of any orthopedic injury hinge on timely employment of the most suitable mode of imaging available. Obviously, that's good for the patient, but it's also essential in reminding payers and other healthcare stakeholders that urgent care centers are ideal locations for truly nonemergent care. If you can handle scaphoid injuries, for example, why would patients go to the emergency room?

This month's lead article, Management of Scaphoid Injuries with Early Specialized Imaging at Urgent Care Clinics (page 13) illustrates this perfectly. We appreciate authors **Muhammad Asim, MBBS, FRNZCUC, FRNZCGP** and **Rabeeah Asim, MBBS** for sharing their expertise. The two are colleagues at Tui Medical and Urgent Care Clinic in Hamilton, New Zealand.

Patients present to urgent care all the time with various aches and pains, of course, but that doesn't necessarily mean their causes have anything in common with each other. The same goes for possible shoulder injuries. What might be easily dismissed as an innocuous, if painful, inconvenience could actually be something much more threatening. Maintaining a broad differential is essential in such cases, as seen in Posterior Shoulder Pain—Not Always a Muscle Spasm (page 28), by **Richard A Ginnetti, MD, MBA, CPE** and **Justin Holschbach, MD.**

Dr. Ginnetti is regional director of primary care for OSF Medical Group, Bloomington (IL), and clinical assistant professor of family and community medicine at Southern Illinois University School of Medicine. Dr. Holschbach is also with OSF Healthcare, as well as a clinical assistant professor of family medicine at SIU School of Medicine, and a clinical assistant professor of family medicine at the University of Illinois College of Medicine Peoria.

When things don't go as planned, clinically, it's not unusual for the provider to be blamed. Sometimes it goes as far as a malpractice suit—something no healthcare professional wants to experience, but an eventuality it might make sense to prepare for. Mock trials are one method of doing so. Could there be other benefits from taking part in or observing a mock trial, though—such as making positive changes in the way you practice medicine? Read this issue's original research article, *See You in Court*: Practice and Documentation Change from a Mock Trial (page 23) to find out. Thanks to authors **Michael Weinstock, MD**; **Kaetha Frost, DO**; **Heath Jolliff, DO**; **Amal Mattu, MD**; **Seth McIntire, DO**; **Marc Calvert, JD**; **Mark Kitrick, JD**; and **Matt Delaney, MD** for producing this important work.

Dr. Weinstock is director of research and CME, Adena Health System; emergency medicine attending physician, Adena Health System; professor of emergency medicine, adjunct, The Wexner Medical Center at The Ohio State University; and senior editor, clinical content, *JUCM*. Dr. Frost is an attending emergency physician with Adena Health Systems. Dr. Jolliff is professor emergency medicine, Ohio University Heritage College of Medicine. Dr. Mattu is professor of emergency medicine and vice chair of academic affairs at the University of Maryland. Dr. McIntire is a third-year resident at Adena Psychiatry at Adena Health Systems. Dr. Calvert practices with Calvert and Associates. Dr. Kitrick is president, Kitrick, Lewis, and Harris. And Dr. Delaney is associate professor and associate program director of University of Alabama Emergency Medicine Residency.

There are legal concerns beyond being sued, of course. One is, what are the implications of keeping your doors open to patients even when a physician isn't present? **Alan Ayers, MBA, MAcc** delves into this topic in detail in What's the Best Policy for Unlocking an Urgent Care's Doors when a Provider isn't Present? (page 19). Mr. Ayers is president of Experity Networks and is senior editor, Practice Management for *JUCM*.

In this issue's Abstracts in Urgent Care section (page 33), **Ivan Koay MBChB, FRNZCUC, MD** keeps us up to date on the necessity (or not) of surgery for appendicitis; oral pain relievers for musculoskeletal extremity pain; what patients don't necessarily know about ionizing radiation; and more. Dr. Koay is an urgent care physician; RNZCUC examiner; education faculty for the RCSI Fellowship of Urgent Care Medicine; and head of faculty, na hÉireann RNZCUC.

Finally, we appreciate **Monte Sandler**, vice president of revenue management for Experity, looking at the fine art of avoiding refunds. His Revenue Cycle Management column starts on page 46.

JUCM invites readers to submit articles on original research or clinical and practice management issues encountered in the day-to-day practice of urgent care. For more information, visit https://jucm.scholasticahq.com/for-authors. ■

It's time to connect, come together and celebrate the accomplishments of urgent care.

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Certification and Celebration

LOU ELLEN HORWITZ, MA

When I did this CEO job the first time, I was part of the group that created UCA's Certified Urgent Care (CUC) program. By the time I took this job the second time in 2020, only 20% of urgent cares had gotten the designation, so I wanted to kill it.

That data indicated there isn't a strong need or demand for the CUC designation, so it seemed like killing the program was the right thing to do. Boy, am I glad we didn't—but for a very surprising reason.

As I've mentioned in past columns, lots of people have been hard at work to figure out where our legislative and advocacy priorities should be. Urgent care is a heterogenous group, and it's hard to imagine a way to represent you all. We also came to understand that we had to focus on a very few things to make true progress. You can see what's hard about this—choosing the right few things for such a diverse group.

As we stepped further and further back to find the right commonalities, it smacked us in the face (again) that we have to have a foundational definition of urgent care. Otherwise, when we go and advocate for this or that change in legislation or regulations or coding, *who does that change apply to*? Who is eligible for that new code or rate? We have to be able to answer that question.

As chance (or amazing foresight of our 2008–2009 Board of Directors) would have it, we already have the answer to that question. The changes should apply to Certified Urgent Cares—because those centers are the only ones that we can definitively say meet the baseline criteria for being an urgent care.

Wait a minute! Don't we have thousands of wonderful member centers that aren't Certified? Yes, we do. Can UCA definitively say that every one of those centers meet the baseline criteria? No, we cannot...so it's impossible for us to advocate that every one of those centers should (for example) get paid more for offering a broad scope of services because they have POC testing and x-ray capabilities (because we don't know if they do).

We do know that about every single Certified Urgent Care, however.

Please consider this your official notice that in the coming years it's going to be important for your centers to be Certified. If not by UCA, by someone. Otherwise our industry is just too much of a mishmash for the powers that be to get comfortable with drafting legislation and rules for. That's not how they work.

We haven't pushed hard on this before because we didn't want it to seem self-serving, but it's time for us to do it now because it is so very "you-serving." We've made it simple to apply; just email quality@ucaoa.org and we'll walk you through it. And we are *dropping the price for members*—from $540 to $360 per location, which covers 3 years of CUC status. If you are a fully fledged urgent care, the criteria are EASY to meet and the process is EASY to do.

I know you are busy right now, and tired, but *I urge you to put this on your list for 2022 because it's going to be very important* as our advocacy work progresses.

Speaking of celebrating, I want to make sure that the other thing on your list is the Urgent Care Foundation events at UCA's Annual Convention.

The Celebration dinner recognizes and celebrates the best among us, and we have a lot of celebrating to do since we haven't gotten to have this event since 2019. It also raises funds for original research and all the advocacy work I've been talking about. The dinner does sell out, so if you miss getting dinner tickets, don't miss getting tickets to the After Party at the Omnia club at Caesars. It's an event in itself and will be fabulous. It's a party for a cause...and *you are the cause*. See you there. ■

For more information on the Urgent Care Association's Certified Urgent Care (CUC) program, visit https://www.ucaoa.org/Quality-Programs/Certification.

Lou Ellen Horwitz, MA is the chief executive officer of the Urgent Care Association.

CONTINUING MEDICAL EDUCATION

Release Date: February 1, 2022
Expiration Date: January 31, 2023

Target Audience
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.

Learning Objectives
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2. To review clinical guidelines wherever applicable and discuss their relevancy and utility in the urgent care setting
3. To provide unbiased, expert advice regarding the management and operational success of urgent care practices
4. To support content and recommendations with evidence and literature references rather than personal opinion

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Management of Scaphoid Injuries with Early Specialized Imaging at Urgent Care Clinics (page 13)

1. **The first intervention to assess for scaphoid fracture is:**
   a. Plain radiograph
   b. CT
   c. MRI
   d. Clinical examination

2. **Scaphoid is the most commonly injured bone amongst carpal bones at the wrist. It accounts for 10% of all hand fractures and ___% of all carpal fractures.**
   a. 5%
   b. 10% to 20%
   c. 50% to 80%
   d. 95%

3. **Initial investigation of the wrist includes a plain radiograph. This:**
   a. Must be followed up with CT or, preferably, MRI to confirm the findings
   b. Can miss around 20% of fractures
   c. Is sufficient to diagnose or rule out scaphoid fracture in most cases
   d. Should take place in a higher-acuity setting than urgent care

What's the Best Policy for Unlocking an Urgent Care's Doors When a Provider Isn't Present? (page 19)

1. **Most malpractice claims related to advanced practice clinicians are traced back to clinical and administrative factors. These include:**
   a. Deviation from written protocols
   b. Misdiagnosis
   c. Medication errors
   d. All of the above

2. **Physician assistants in urgent care perform more procedures than PAs in:**
   a. Emergency medicine
   b. All other specialties
   c. Both A and B
   d. None of the above

3. **Rationale for keeping an urgent care location open even when a physician is not on site include which of the following?**
   a. Nonphysicians can conduct asymptomatic COVID-19 testing
   b. Nonphysicians can perform drug tests
   c. Patients can be "referred" for a telemedicine visit with a physician in another location without ever leaving the original location if warranted
   d. All of the above

Posterior Shoulder Pain—Not Always a Muscle Spasm (page 28)

1. **Parsonage–Turner syndrome is often misdiagnosed as:**
   a. Bursitis
   b. Rotator cuff tear
   c. Cervical radiculopathy
   d. Any of the above

2. **The exact cause of idiopathic neuralgic amyotrophy has not been identified, but potential triggers include:**
   a. Infection
   b. Antecedent immunization
   c. Hepatitis B
   d. All of the above

3. **Which tests can be done to *confirm* the diagnosis of Parsonage-Turner syndrome?**
   a. Nerve conduction studies and electromyography (EMG)
   b. Abnormal erythrocyte sedimentation rate
   c. Abnormal C-reactive protein
   d. White blood cell count

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Management of Scaphoid Injuries with Early Specialized Imaging at Urgent Care Clinics

Urgent message: Timely employment—and informed selection—of the most suitable mode of imaging are essential for correct diagnosis and optimal treatment of scaphoid injuries in the urgent care setting, often negating the need for referral to a higher-acuity setting.

MUHAMMAD ASIM, MBBS, FRNZCUC, FRNZCGP and RABEEAH ASIM, MBBS

Citation: Asim M, Asim R. Management of scaphoid injuries with early specialized imaging at urgent care clinics. *J Urgent Care Med*. 2022;16(5):13-18.

Introduction

The scaphoid is the most commonly injured bone amongst carpal bones at the wrist, accounting for 10% of all hand fractures and 50% to 80% of all carpal fractures. Risk of nonunion is up to 10% in all nondisplaced fractures.[1] This injury is frequent in adults and athletes who fell on their outstretched hand. There are serious consequences with misdiagnosis or delayed diagnosis such as nonunion, avascular necrosis, and arthritis. A high index of suspicion based on the mechanism of injury, clinical exam, followed by immobilization with delayed x-rays can prevent these complications.

Early MRI for suspected scaphoid injuries found scaphoid fracture in 40% of x-ray negative patients.[2] Early referral to a specialist orthopedic or plastic surgeon for displaced fractures or if there is evidence of nonunion on follow-up can help prevent long-term complications and disability.[3]

Current Practice In Urgent Care

Current practice for suspected scaphoid fracture with a negative x-ray in many urgent care clinics is to immobilize using a scaphoid cast and have the patient follow up in 10-14 days with repeat x-ray to look for evidence of fracture or callous formation. For confirmed fractures with no displacement, the period of immobilization is based on the fracture site (distal, mid, or proximal pole). Displaced fractures or open injuries are referred acutely to orthopedics.

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Author affiliations: Muhammad Asim, MBBS, FRNZCUC, FRNZCGP, Tui Medical and Urgent Care Clinic, Hamilton, New Zealand. **Rabeeah Asim, MBBS,** Taranaki Base Hospital, New Plymouth, New Zealand. The authors have no relevant financial relationships with any commercial interests.

Figure 1. Initial X-Ray

Figure 2. Day 16 X-Ray

Case Description

CA is a 20-year-old male, right-hand dominant barista who presented to the urgent care clinic on December 5. He sustained an injury the previous day after falling backwards onto his left outstretched hand (FOOSH). Initially he thought it was a sprain, but movements were causing a lot of pain, so he presented to urgent care. There were no other injuries and no pain in the elbow or shoulder area. He was wearing a splint he happened to have at home. There was no significant past medical history. He was not known to have any drug allergies.

Meds

Acetaminophen and ibuprofen PRN for pain.

Family History

Father had osteoarthritis of the hip needing joint replacement in his 60s.

Personal History

Smoker, 3-4 per day.

On Examination

Alert, mildly distressed due to pain. OBS stable. Afebrile. Left wrist: Closed injury with no obvious swelling or deformity.

There was tenderness to the radial aspect of the wrist and at the anatomical snuff box (ASB) area. He had painful movements at the wrist and to the base of thumb. There was also central dorsal and volar tenderness of the wrist. The triangular fibrocartilage complex grind test was negative. Elbow and hand examination was normal with no neurovascular deficit to the hand. X-ray of the left hand and wrist was suspicious for a proximal pole fracture (see **Figure 1**).

Impression

Nondisplaced left scaphoid fracture.

Plan

The patient was placed in a scaphoid cast (below elbow back slab with thumb spica) and arm sling for elevation. He was scheduled for 2-week follow-up in the same urgent care center. Analgesia was prescribed and he was advised to avoid use of NSAIDs.

Day 16 Post Fracture

Repeat x-rays did not show any change. The patient still had slight tenderness to the ASB area and tenderness to axial loading. He was placed in a below elbow fiber glass (BEFG) scaphoid cast with a waterproof liner (on patient request). See **Figure 2**.

Figure 3. Week 8 Follow-Up

Figure 4. Week 18 Follow-Up

Week 8 Follow-Up

Nontender at snuffbox and scaphoid tubercle in left hand. Wrist movements were normal with mild out-of-cast stiffness and weakness. X-ray of left scaphoid was reported as showing early healing or bone bridging. Patient was removed from BEFG cast and fitted with a scaphoid splint. He was referred to hand physiotherapist and with advice for light activities only. See **Figure 3.**

Week 18 Follow-Up

Ongoing pain at scaphoid area while doing movements out of splint. Repeat x-ray was showed minor sclerosis at bony ends, features consistent with nonunion; advised CT scan. Patient was referred to orthopedic surgeon for CT scan. See **Figure 4**.

Week 21 Follow-Up

Patient had full range of movements with slight discomfort and was referred for a CT scan. CT scan showed some sclerosis across the fracture line consistent with new bone formation. (See **Figure 5**.) Patient is awaiting review by orthopedic surgeon following CT scan.

Figure 5. Week 21 Follow-Up

Discussion

Incidence

The scaphoid is the most commonly fractured wrist bone, with injury usually occurring following a fall on

an out-stretched hand (FOOSH). Injury to the scaphoid is difficult to diagnose and immobilization of the wrist based on clinical impression is common.

Scaphoid fracture accounts for 10% of all hand fractures and up to 70% of all carpal bone fractures, making it the most common injury of carpal bones at the wrist.[1,3] Wolf, et al reported that the peak incidence of scaphoid fracture is in 20- to 24-year-olds and is more common in male gender.[2]

Anatomy

The scaphoid bone has an irregular shape and up to 80% of the bone is covered by articular cartilage. The blood supply to the scaphoid bone has been well described by Panagis, et al, who showed that dorsal vessels supply 80% of the vascularity to the scaphoid and the majority of blood enters via dorsal ridge.

Due to the unique vascularity, proximal pole fractures have a worse prognosis for healing than distal injuries.[5] Fractures to the scaphoid bone are classified by location: distal pole, waist, and proximal pole. The majority occurs at the waist (65%), followed by proximal pole (15%), and then distal body (10%); 8% occur at the tuberosity.[6]

Mechanism of Injury

The most common mechanism of scaphoid fracture is a FOOSH common to many sporting injuries. With FOOSH, direct vertical compression force goes along the long axis of the wrist with hyperextension to more than 95° and causes the central scaphoid body to be forced against the dorsal end of the distal radius, causing its fracture. A direct blow or a twisting injury is unlikely to cause fracture of the scaphoid.[7]

Diagnosis

The most important tool to diagnose or suspect scaphoid fracture (after mechanism of injury) is clinical examination. Tenderness in the anatomical snuffbox (ASB) is a widely used and known test to diagnose scaphoid fracture. This test is very sensitive but has specificity of only 40%. It can be falsely positive if the radial nerve sensory branch is pressed in the ASB.[8] Pain on longitudinal compression of thumb is 100% sensitive but has specificity of only 30% while localized tenderness to the scaphoid tubercle has a specificity of 48%.[9] Combining all the tests can give a good indication of scaphoid injury during initial evaluation.

There is controversy in regard to sensitivity and specificity of history and physical signs for diagnosis of scaphoid fractures. Carpenter, et al did a systematic review of 75 studies for diagnosis of scaphoid fracture in ED and acute settings. The authors concluded that, in the absence of tenderness to the scaphoid and pain on resisted supination of forearm, there is a low likelihood of having scaphoid fracture with negative likelihood ratios of 0.15 and 0.09, respectively. History was also not a significant or useful tool for diagnosis of scaphoid fracture.[10]

Imaging

Plain radiograph of the wrist, including a scaphoid view, is the initial investigation but can miss around 20% of fractures; the most frequently missed area is the middle portion of the scaphoid bone. Scapholunate disruption is another important injury to identify on plain radiograph. Plain radiographs are also poor at showing displacement of fracture fragments. Bernard, et al reported sensitivity of 78% and specificity of 72% to detect 1 mm displacement by plain radiograph.[11]

If there are any doubts about displacement of fracture segments, the patient should be referred for CT via orthopedics acutely in hospital. Mallee, et al reported that plain radiographs are limited in their ability to detect the scaphoid fracture within 2–6 weeks, especially oblique fractures of the middle third of the scaphoid body, which if missed can lead to poor outcome and complications.[12] Consequently, follow-up at 2 weeks with repeat imaging is recommended.

CT scan has sensitivity of 72% and specificity of 99% to detect scaphoid fractures, including displacement of fracture segments, but can't detect most soft tissue injuries. Timing after injury has no effect on the accuracy of CT scan. Simply speaking, it would miss 56 fractures in 1,000 patients and overtreat eight patients.[10]

MRI scan has sensitivity of 88% and specificity of 100% to detect scaphoid fractures and can also detect soft tissue injuries. It is the best test to do for suspected scaphoid fractures. MRI is the most accurate imaging test to confirm scaphoid fracture in ED patients. If it is not available acutely, then CT scan is the next imaging modality to rule out fracture.[10]

Bone scan has the highest sensitivity (99%) to detect scaphoid fractures but lacks specificity (86%). It is best done 72 hours after injury, so it is *not* the investigation of choice for the scaphoid fracture.[10]

There is no consensus in the literature about the best imaging modality to diagnose scaphoid fracture, and no one is identified as the gold standard. Mallee, et al concluded from systematic review of different studies that two such standards may be reasonable: positive plain radiographs at 6 or more weeks post injury or

agreement of at least two advance modalities—MRI, CT, or bone scan.[12]

Management

Initial treatment of suspected scaphoid fracture is by-case immobilization. Immobilization should be considered even with negative radiographs. If x-rays are negative, then advanced imaging can be performed based on patient preferences, cost, and availability. High-end athletes and professionals who can't afford unnecessary immobilization should be referred early to Orthopedics for consideration of CT or MRI, or should be given option to self-pay for the scan. Initial follow-up should be in 2 weeks, with repeat x-ray.[3]

Red Flags for Specialist Referral

Indications for referral to a specialist include open fracture with or without neurovascular compromise (acute), proximal pole fractures (within weeks to specialist), fracture segment displacement of more than 1 mm, delayed presentation (more than 3 weeks), scapholunate rupture (more than 3 mm widening) and routine referral if there is evidence of nonunion on follow-up visits while patient is being managed conservatively.[13]

For casting of scaphoid fracture, controversy exists regarding whether the thumb should be included. Leaving the thumb out gives the patient more freedom. Buijze, et al compared both in multicenter randomized controlled trials for casting of scaphoid fracture with or without thumb immobilization. There were higher rates of fracture union confirmed by CT at 10 weeks in the group treated without thumb immobilization. Functional and pain outcome and radiological union rates at 6 months were the same in both groups. This trial didn't include large numbers and the study lacks power.[14] A thumb-free cast is an option for people wanting more mobility of the thumb for their profession while being managed conservatively. In our center we put patients on standard below elbow thumb spica scaphoid cast.

Period of immobilization for fracture healing depends on the location of the fracture due to the unique blood supply of the scaphoid bone. Distal pole fractures need an average of 6 weeks in cast while mid-pole fractures need 12 weeks of immobilization. Proximal pole fractures may require up to 20 weeks of immobilization in cast.[3,6] In the case described here, the decision to go for 12 weeks of immobilization may be held by some to be overly conservative. Another option would have been to refer early to orthopedics for consideration of surgery.

Surgery for scaphoid fractures can shorten the healing time and can expedite the return to sports or work for patients. Inoue, et al reported equal healing rates in both surgical and nonsurgical groups with mid-body fractures but time to return to sports was 5.8 weeks in the surgical group compared with 10.2 in the nonsurgical group.[15]

Patients who have evidence of nonunion, especially patients with proximal pole fractures, need surgery with internal fixation and bone grafting. The bone graft is usually taken from the iliac crest but more recently the distal radius is also being used.[16] Surgery is the best treatment for proximal pole and mid-pole fractures, which should also be referred early to an orthopedic or hand surgeon. Surgery can help patients recover quicker and can prevent long-term complications. It is necessary to balance risk and benefits, however, as surgery is not without risks.

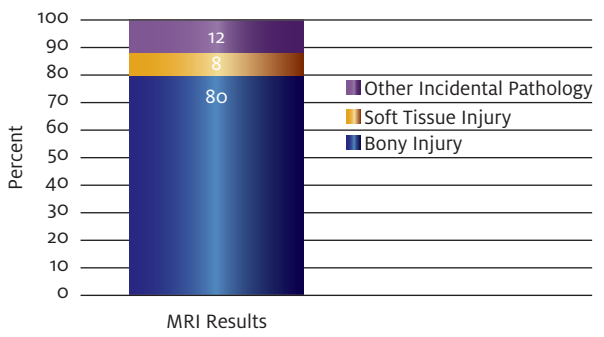
Complications of Scaphoid Fracture

- Avascular necrosis – Proximal 1/3 of fractures with highest incidence, followed by mid third fractures.
- Nonunion of fracture fragments – Main factor being delayed or inadequate immobilization and also site of fracture due to unique blood supply to scaphoid bone.
- Chronic pain and arthritis – Steroid injection can help with arthritis and chronic pain and surgery with arthrodesis is an option if steroid injection doesn't work.[17]

In summary, scaphoid fracture management is an important subject that every urgent care, sports medicine, and emergency medicine physician should be prepared to deal with. It is important for urgent care physicians to be aware when to refer these patients for surgery or specialist opinion. (In New Zealand, advanced imaging utility is restricted to specialists only due to cost restraints imposed by the country's Accident Compensation Corporation [ACC, a government insurance program], which may delay adequate care for some patients.) Scaphoid injury, if missed or poorly managed, can have long-term consequences for patients, especially athletes.

In this particular case, this patient should have been given the option of an early surgical opinion regarding surgery compared with conservative management of 16-20 weeks in cast immobilization. If conservative treatment had failed, the patient could always go for the surgical option with bone grafting (though recovery time and return to sports or full duties at work might have delayed). Ideally, the patient would undergo MRI scan of the scaphoid if initial x-ray is negative or there is uncertainty about displacement of fracture fragment. MRI is more expensive than CT but is the best modality

Figure 6. Abnormal MRIs on X-Ray–Negative Patients



Data source: Khalid M, Jummani ZR, Kanagaraj K, et al. Role of MRI in the diagnosis of clinically suspected scaphoid fracture: analysis of 611 consecutive cases and literature review. *Emerg Med J*. 2010;27(4):266-269.

to diagnose the scaphoid fracture and the soft tissue injury at same time. Its use can prevent unnecessary immobilization and the time off from work.

Achieving Optimal Results

Early MRI can help exclude scaphoid fracture. Canberra Area Scaphoid Trial 2005[18] included patients who had an initial normal x-ray of the scaphoid with clinical suspicion of fracture. MRI was highly sensitive and specific to rule out scaphoid fracture. They concluded that early MRI is a sensitive and practical way to diagnose occult scaphoid fracture and that it can help avoid unnecessary cast immobilization for these patients. This was a small study and lacks power. However, a larger study including 611 patients by Khalid, et al, had similar findings.[19] Abnormal MRIs on x-ray–negative patients showed bony injury in 80%, soft tissue injury in 8%, and other incidental pathology in 12%. (See **Figure 6**.)

Patient anxiety and time off from work can be minimized with use of advanced imaging in acute care. Cost is the main concern in doing MRI in acute settings. A study by Patel, et al that compared cost and patient satisfaction showed that the MRI group had better pain and satisfaction scores with comparable time off work and sporting activities. Early MRI was marginally cost-effective compared with the conventional treatment group.[20]

Conclusion

Early specialized images in the form of MRI can diagnose scaphoid fracture and guide specific treatment at urgent care clinics. ■

Take-Home Points

- Scaphoid fracture accounts for 10% of all hand and up to 70% of all carpal bone fractures, making it the most common injury of carpal bones at the wrist.
- Injury usually occurs following a fall on an outstretched hand (FOOSH).
- Fractures to the scaphoid bone are classified by location: distal pole, waist, and proximal pole. The majority occurs at the waist (65%), followed by proximal pole (15%), and distal body (10%); 8% occur at the tuberosity.
- The most important tool to diagnose or suspect scaphoid fracture (after mechanism of injury) is clinical examination. Tenderness in the anatomical snuffbox (ASB) is a widely used and known test to diagnose scaphoid fracture.
- Initial treatment of suspected scaphoid fracture is by-case immobilization. Immobilization should be considered even with negative radiographs.

Suggested Reading

Bartuseck M. Injuries to the upper extremity due to falls on outstretched hands (FOOSH). *J Urgent Care Med.* 2018;12(5): 11-15. Available at: https://www.jucm.com/wp-content/uploads/2021/02/2018-12511-15-Clinical-Mgmt.pdf

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What's the Best Policy for Unlocking an Urgent Care's Doors When a Provider Isn't Present?

Urgent message: Whether or not an urgent care center must have a provider on-site during all operating hours comes down to the operator's risk tolerance.

ALAN A. AYERS, MBA, MAcc

As a matter of patient safety, many urgent care centers have adopted a policy that if no provider is on-site, they must lock the doors and refuse entry of any patients. As a result, patients wait outside before the center opens—even if it opens later than scheduled—and the center closes any time the provider is unavailable.

The rationale is that a provider should be on-site any time patients are present so they can administer lifesaving treatment if needed. From a liability perspective, this sounds like a reasonable policy, but it is also one that creates numerous operational challenges.

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Reasons Why an Urgent Care May Operate Without a Provider

Urgent care tends to be busiest in the morning, so regardless of the center's opening time there are typically patients waiting outside as soon as the doors are unlocked. It can take 10–15 minutes to register the first patient, after which the medical assistant takes vitals, records intake notes, and rooms the patient.

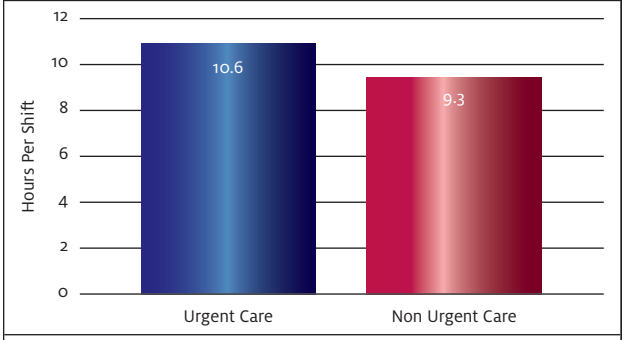
It's therefore likely if the center "opens" at 8:00 AM that the first patient won't be "available" to the provider until nearly 8:30. Given provider pay is the center's biggest expense item, this results in idle time that frequently also puts the center "behind" for several hours until there's a lull in patient arrivals. Faster throughput and smoother flow can be accomplished by either staggering the provider's arrival to availability of the first patient, or having the staff open doors 15 minutes early so the first patient is ready to be seen at 8:00 AM.

Additionally, many urgent care services do not require a provider, including drug testing and asymptomatic COVID-19 testing. If a provider is absent, rather than close the center resulting in a loss of business (and a loss of pay for staff), a center would continue to see non-provider visits and first register and then divert medical presentations to other locations.

Increasingly, telemedicine can solve this conundrum. Registration and intake processes would occur as usual, but the patient would be escorted to an exam room with a video connection to a provider in another location. Under telemedicine parity laws, this scenario should still enable full reimbursement for the patient visit.

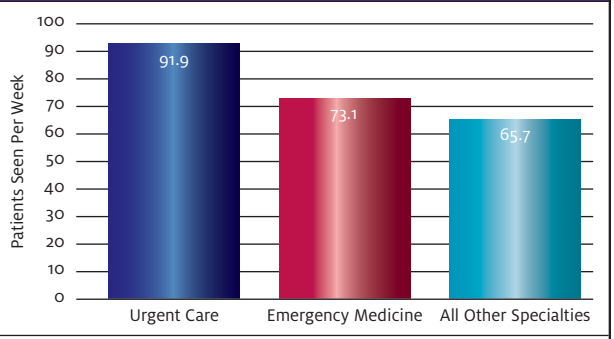
Alan A. Ayers, MBA, MAcc is President of Experity Networks and is Senior Editor, Practice Management of *The Journal of Urgent Care Medicine*. The author has no relevant financial relationships with any commercial interests.

Figure 1. PA Hours Worked per Shift, Urgent Care vs Non Urgent Care



Data source: Ritsema TS, Cawley JF, Smith N. Physician assistants in urgent care. *J Am Acad Physician Assistants.* August 2018. Available at: https://journals.lww.com/jaapa/fulltext/2018/08000/physician_assistants_in_urgent_care.7.aspx. Accessed January 10, 2022.

Figure 2. Patients Seen by PAs per Week, by Specialty



Data source: Ritsema TS, Cawley JF, Smith N. Physician assistants in urgent care. *J Am Acad Physician Assistants.* August 2018. Available at: https://journals.lww.com/jaapa/fulltext/2018/08000/physician_assistants_in_urgent_care.7.aspx. Accessed January 10, 2022.

Risk Management Considerations

While patient safety in an emergent situation may be the rationale for requiring a provider to be on-site during all opening hours, our legal researcher could not find sources addressing the situation specifically in urgent care settings. This is keeping in mind that urgent care centers are generally considered "doctors' offices" not subject to the Emergency Medical Treatment and Labor Act (EMTALA) and therefore not regulated in the same manner as emergency departments. So, lacking precedent to the contrary, we can conclude the policy adaptation comes down to the individual operator's risk tolerance.

Patients usually don't call urgent care to assure a provider is present before heading there. From a practical standpoint, if the concern is having a provider available to render lifesaving aid, whether an emergency appears is not dependent on having a provider present. In other words, what's the staff going to do if a patient is in crisis on the sidewalk or in the parking lot because the center's doors are locked? In such a situation, the staff should call 911 and render aid as capable, the same as if the patient were in the waiting room.

While lifesaving situations have presented at urgent care, the hypothetical that a provider must be present to deal with them ignores how centers are staffed and equipped. Increasingly, urgent care centers are staffed by physician assistants and nurse practitioners who should have Basic Life Support (BLS) certification, but many employers either do not require ACLS (advanced cardiovascular life support) and PALS (pediatric advanced life support) certification, or they require it within 3–6 months of starting, which leaves a gap without the training.

In addition to special training which must be refreshed regularly, ACLS and PALS require specified equipment, supplies, medications, and staff support—all of which must be periodically refreshed. Even if a physician is ACLS-certified, it's unlikely MAs will have experience in "running a code." As a result, most urgent care centers are equipped for BLS, including a wall-mounted AED. In the rare occurrence that a patient falls into cardiac arrest, these centers would administer BLS, call 911, and rely on the lifesaving capabilities and training of the Emergency Medical Technicians who would also transport the patient to the hospital.

Nurse Practitioners and Physician Assistants

While it can be expected that physicians will have had ACLS training, the core clinical workforce in urgent care is transitioning to Advanced Practice Clinicians (APCs).

Nurse practitioners are now working solo in many urgent care centers.[1] An NP is an advanced practice registered nurse (APRN) who has additional training and responsibilities for administering patient care compared with registered nurses (RNs).[2] Moreover, recently, nurse practitioners have been successful in lobbying many states to broaden their scope of practice, even owning and operating their own urgent care centers.[3–5]

As for physician assistants, the percentage of PAs who work in urgent care has nearly doubled in the last 10 years.[6,7] Research also shows that PAs in urgent care work longer shifts (an average of 10.6 hours) than those who don't practice urgent care (9.3 hours). (See **Figure 1**.) In addition, PAs in urgent care see many more patients per week (91.9 on average) for their primary employer than those in emergency medicine (73.1) and those in all other specialties combined (65.7).[6] (See **Fig-**

ure 2.) PAs in urgent care also perform more procedures (82.3%) than both PAs in emergency medicine (69.2%) and PAs in all other specialties (58.7%).[6]

These factors mean that APCs are shouldering more of the load and creating more opportunities (as well as more mistakes and potential liability).

One article states, "Although advocates claim that studies show that NPs can provide comparable care to physicians, they fail to acknowledge that this research has always been done *with supervised NPs*. The truth is that there are absolutely no studies that show nurse practitioner safety and efficacy when practicing independently."[8]

If you add to this the situation where APCs are staffing the urgent care without a physician on-site, there is an even greater chance of issues with more complex patient needs.[9]

Avoiding Services Beyond Capabilities

Of course, if a patient were to arrive with an adverse medical event requiring advanced lifesaving, an on-duty physician would be there to administer emergency treatment. However, there are a number of questions surrounding when APCs are staffing the urgent care without a provider.

While there is no standard, regulation, or requirement (other than basic risk management) as to whether an urgent care center can open its doors daily without a provider being present, research shows that most malpractice claims attributed to APC liability are traced to clinical and administrative factors that are easily identified:

- Assumption of too much responsibility
- Inadequate physician supervision
- A lack of written protocols
- Deviation from written protocols
- Failure and delay in seeking referral or physician collaboration

The most obvious way to avoid an unsupervised PA or NP providing services beyond their capabilities is to have a physician on-site during all opening hours. Because that's not always financially feasible, many operators enable "supervising physicians" to be available by phone at all times.

In any case, urgent care should function as a "team" of physicians, physician assistants, and nurse practitioners to make certain that their APCs don't attempt to provide services beyond their capabilities or those not permitted by law. An NP's or PA's work is initially closely monitored until the physician has a comfort level with the PA's or NP's abilities. Monitoring at regular intervals ensures continued quality performance and allows for the detection of misdiagnoses, delays in diagnoses, improper orders, or any other issues requiring attention.[10]

Midlevel practitioners should not be providing services beyond their capabilities or those not permitted by law. To aid with this, policy and procedure manuals should reflect consistency and adherence to clinical practice guidelines.[11] Moreover, position descriptions are a useful tool that urgent care owners and managers can use to make certain that midlevel professionals are practicing within the prescribed practice guidelines.

Takeaways

Whether an urgent care operator should require a provider on-site in order to open its doors is a matter of risk tolerance, as there are business practicalities "for" and "against" yet there is no clear legal precedent. However, given the prevalence of APC staffing, urgent care operators should be cognizant of situations in which an NP or PA may be providing services beyond their capabilities. The best approach is to have clearly defined policies and procedures to assure consistency and compliance across teams, shifts, and facilities. ■

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See You in Court: Practice and Documentation Change from a Mock Trial

Urgent message: "Mock trials" are a valuable tool to help urgent care providers offer better medical care, record more appropriate documentation, and learn about medical proceedings.

MICHAEL WEINSTOCK, MD; KAETHA FROST, DO; HEATH JOLLIFF, DO; AMAL MATTU, MD; SETH MCINTIRE, DO; MARC CALVERT, JD; MARK KITRICK, JD; and MATT DELANEY, MD

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Abstract

Background

The risk of medicolegal action following an emergency department visit is a source of misinformation and stress for clinicians.

Objective

To determine if viewers of a mock trial think it will result in a change in practice and/or documentation.

Methods

Participants included the residents and attendings at the host facility and invitees from the Council of Residency Directors (CORD) listserv, social media, and past participants of this yearly conference. During a 90-minute mock trial the defendant was represented by a volunteer third-year emergency medicine resident, practicing attorneys as counsel, and two EM physicians with extensive real-world medicolegal experience as expert witnesses. Following closing statements, the audience participants completed a survey. Those who did not watch all or most of the trial and those who did not answer all the survey questions were excluded.

Results

There were 682 unique views of the conference on Zoom video, of which 404 participants met the inclusion criteria, representing 176 attending physicians of which 137 (80%) were EM; 99 residents of which 79

Author affiliations: Michael Weinstock, MD, Adena Health System; The Wexner Medical Center at The Ohio State University. **Kaetha Frost, DO,** Adena Health Systems. **Heath Jolliff, DO,** Ohio University Heritage College of Medicine. **Amal Mattu, MD,** University of Maryland. **Seth McIntire, DO,** Adena Health Systems. **Marc Calvert, JD,** Calvert and Associates. **Mark Kitrick, JD** Kitrick, Lewis, and Harris. **Matt Delaney, MD** University of Alabama.
The authors have no relevant financial relationships with any commercial interests. Drs. Weinstock, Jolliff, Mattu, and Delaney consult as experts in medical malpractice cases. Drs. Calvert and Kitrick are practicing medical malpractice attorneys.

Table 1. Demographics

Respondents by specialty	N	EM	FM	IM	Other
Total	404				
Attending physicians	176	137 (80%)	12 (6%)	23 (13%)	4 (2%)
Residents	99	79 (80%)	11 (11%)	2 (2%)	7 (7%)
Medical students	32	Note: Medical students have not been specialty-designated			
Nurse practitioners (26) + nurse practitioner student (1)	27	12 (4%)	6 (22%)	6 (22%)	3 (11%)
Physician assistant	20	19 (95%)	0 (0%)	1 (5%)	0%
PA students	34	Note: PA students have not been specialty designated			
Attorney/paralegal	4	Note: No specialty designation			
Other	12	Note: No specialty designation			

EM, emergency medicine; FM, family medicine; IM, internal medicine

(80%) were EM; 34 physician assistant (PA) students; 32 medical students; 27 nurse practitioners/students; 20 PAs, four attorneys and 12 "other." Three hundred eighty-five (95%) thought the physician in the case practiced "standard of care," but only 212 (52%) thought they practiced "excellence in care." A significant number of participants (290, or 72%) stated they would change or consider changing their practice and 374 (92%) stated they would change or consider changing their documentation after watching the mock trial.

Conclusions

A mock trial appears to be an effective teaching modality to create practice change and documentation change.

Introduction

Across a wide variety of medical learners, the threat of being sued after an adverse medical event is a source of significant stress.[1-5] While there are various publications, lectures, courses, and podcasts focused on medicolegal risk, these educational products often have a limited scope featuring a medical expert discussing various high-risk patient presentations. Additionally, medicolegal training in residency is often lacking.[6] Brown, et al reported that only 7% of malpractice cases filed against emergency clinicians resulted in a trial[7]; given the rarity of courtroom cases, learning from real-life experience gleaned by attendings and residents is sporadic.

The concept of a mock trial allows clinicians to safely simulate and fully experience a rare yet high-stakes experience. Mock trials are commonly conducted during law school, but have also been used on occasion as an educational tool for clinicians.[8-12] Drukteinis, et al found that involving EM residents as "expert witnesses" helped them develop greater comfort and competency when providing expert testimony.[9] Lennon, et al reported that while family medicine residents found a mock trial to be an engaging educational tool, most participants struggled to identify the important postintervention takeaways, specifically the ability to name key components of negligence.[12]

In other professions like commercial aviation, training for and simulating rare, high-risk episodes is a common part of both initial and ongoing training. Bringing together clinicians and lawyers during a mock trial can provide real-world experience in a low-stakes environment.

The goal of the mock trial described in this paper was to teach about the legal process surrounding malpractice trials as well as medical concepts such as bedside ED evaluation, consultation with a specialist, and documentation techniques such as how to document a conversation with a specialist. We chose a case with the common ED chief complaint of chest pain.[13] Participants were evaluated with a post mock trial poll to see if this learning modality would lead to change in medical practice and documentation. This is the largest study with the most diverse set of participants on this topic identified in the current medical literature.

Methods

A mock trial was conducted at a community teaching program in Ohio in September 2020 and was viewed by 642 clinicians located across the U.S. using a teleconference platform (Zoom). The video was archived and could be viewed later, but all the included survey respondents viewed the proceedings in real time. These participants included residents and attendings from the

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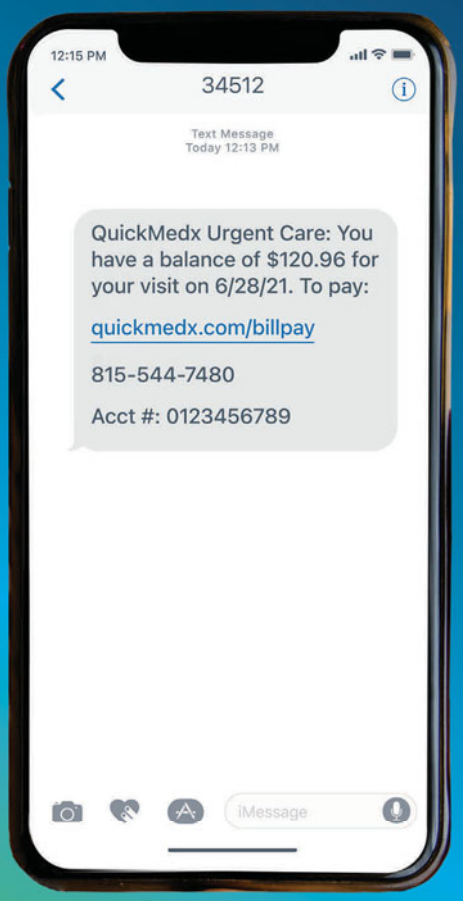

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Table 2. Perception of Medical and Legal Issues

Postpresentation Outcome Data										
		Was defendant's practice consistent with standard of care?		Was defendant negligence the proximate cause of injury?			Did the defendant practice excellence in care?		Would you settle?	
	N	Yes	No	Yes	No	N/A	Yes	No	Yes	No
Total	404	385 (95%)	19 (5%)	33 (8%)	318 (79%)	53 (13%)	212 (52%)	48% (192)	106 (26%)	298 (74%)
Attending physicians	176	167 (94%)	9 (6%)	15 (9%)	142 (81%)	19 (11%)	97 (55%)	79 (45%)	35 (20%)	141 (80%)
Residents	99	93 (94%)	6 (6%)	4 (4%)	84 (85%)	11 (11%)	57 (57%)	42 (43%)	23 (23%)	76 (77%)
Medical students	32	32 (100%)	0 (0%)	2 (6%)	24 (75%)	6 (19%)	9 (28%)	23 (72%)	10 (31%)	22 (69%)
Nurse practitioner (26) + nurse practitioner student (1)	27	27 (100%)	0 (0%)	3 (11%)	18 (67%)	6 (22%)	19 (70%)	8 (30%)	10 (37%)	17 (63%)
Physician assistant	20	20 (100%)	0 (0%)	0 (0%)	19 (95%)	1 (5%)	13 (65%)	7 (35%)	6 (30%)	14 (70%)
Physician assistant students	34	34 (100%)	0 (0%)	4 (12%)	24 (70%)	6 (18%)	7 (21%)	27 (79%)	16 (47%)	18 (53%)
Attorney/paralegal	4	2 (50%)	2 (50%)	1 (25%)	1 (25%)	2 (50%)	2 (50%)	2 (50%)	2 (50%)	2 (50%)
Other	12	11 (92%)	1 (8%)	4 (33%)	6 (50%)	2 (17%)	8 (67%)	3 (33%)	5 (42%)	7 (58%)

Table 3. Participants Who Would Change Their Clinical Practice or Documentation as a Result of Watching the Mock Trial

		Based on what you know now, would you change your documentation practices?			Based on what you know now, would you change your clinical practice?		
		Yes	No	Consider	Yes	No	Consider
	N	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Total	404	340 (84%)	31 (8%)	34 (8%)	203 (50%)	114 (28%)	87 (22%)
Attorney/paralegal	4	2 (50%)	2 (50%)	0% (0)	2 (50%)	2 (50%)	0% (0)
Attending physicians	176	135 (77%)	22 (12%)	19 (11%)	71 (40%)	71 (40%)	34 (19%)
Nurse practitioners (26) + nurse practitioner student (1)	27	23 (85%)	1 (4%)	3 (11%)	15 (56%)	2 (7%)	10 (37%)
Physician assistant	20	18 (90%)	2 (10%)	0 (0%)	12 (60%)	5 (25%)	3 (15%)
Resident	99	90 (91%)	1 (1%)	8 (8%)	53 (53%)	25 (25%)	21 (22%)
Medical student	32	29 (91%)	1 (3%)	2 (6%)	19 (60%)	3 (9%)	10 (31%)
Physician assistant students	34	34 (100%)	0 (0%)	0 (0%)	26 (76%)	2 (6%)	6 (17%)
Other	12	8 (67%)	3 (30%)	1 (3%)	5 (42%)	4 (33%)	3 (25%)

host facility of a community teaching program (including EM, Internal Medicine, Family Medicine, and Psychiatry), PA students in a large PA training program, and other clinicians and trainees from outside the host facility who were informed about the program through the CORD listserv, social media, and promotional emails sent to members of a large ED staffing organization and to past participants of this yearly conference (the third annual Adena Thought Leaders Summit). The study was granted IRB exempt status from the Adena Health System institutional review board.

The program started with a description of the case—an actual case and the actual documentation was used—and an interview with a medicolegal expert (Amal Mattu, MD). Following this, a 90-minute mock trial was conducted. The defendant was represented by a volunteer third-year EM resident, and practicing attorneys served as counsel for the plaintiff and the defense. Similarly, two EM attending physicians with extensive real-world medicolegal experience served as the expert

witnesses.

The trial included opening statements followed by direct and cross examination of the expert witnesses and the volunteer defendant physician. The trial ended with closing statements from each attorney. Participants completed an online poll after the presentation of the mock trial in which they were asked predetermined questions related to the primary outcomes of effect on practice and documentation.

In addition to demographic and "confirmation of viewing" questions, the specific practice and documentation questions were:

- Based on what you have learned, will your practice of medicine change?
- Based on what you have learned, will your documentation change?

Case Details

The case concerned a 58-year-old man who presented with chest pain, diaphoresis, and radiation of the pain. The initial electrocardiogram from EMS was read by the computer as showing "acute MI suspected." The initial ECG in the ED was done at 00:03 and was read by the computer as "**Acute MI**." This was faxed to the interventional cardiologist.

At 00:29 the ED physician discussed the case with the interventional cardiologist. The actual documentation reads:

"Discussed this case with Dr. ___, the on-call physician, called him stat as ekg has concave st elev V1 thru V4 with nonspec st dep inferiorly."

A second ECG was done in the ED at 00:36 and was read by the computer as showing "**Acute MI**."

At 00:52 the ED physician discussed the case with the hospitalist who was taking the call from home. The actual documentation reads:

"Discussed this case with Dr. ____, the on-call physician. The patient will be admitted to the hospital. The patient requires intensive care" and *"Xray data reviewed, Reviewed EKG"*

The patient was admitted to the ICU of this community hospital at 00:52. During the night, the patient continued to have chest pain and another ECG was done at 05:32; it showed new convex upward ST elevation, reciprocal changes, and new right bundle branch block, indicative of an anterior STEMI and subsequent SBP of 76 mmHg despite vasopressor therapy, as well as complete heart block. The patient was taken for cardiac catheterization with percutaneous transluminal coronary angioplasty (PTCA) and stent of the left anterior descending (LAD) coronary artery with intracoronary abciximab and adenosine. Because of continued hypotension the patient had placement of an intra-aortic balloon pump (IABP) and a temporary pacemaker and was then transferred to a tertiary care hospital due to cardiogenic shock.

A lawsuit ensued with allegations of "failure to diagnose" and "delay in diagnosis."

Results

There were 682 unique views of the conference. After excluding participants who did not answer questions and with incomplete answers to questions and including only those who watched "all" or "almost all" of the mock trial, there were 404 responses composed mostly of EM attendings and EM residents (**Table 1**).

After the trial ended, participants were asked questions in an online poll pertaining to the care rendered. Most (385/404; 95%) felt that "standard of care" was met, but far fewer 212/404 (52%) felt that "excellence in care" was practiced. (**Table 2**.)

Most participants felt both that they would change or consider changing their clinical practice (290/404; 72%) and that they would change or consider changing their documentation practices 374/404 (93%), based on viewing the mock trial. (**Table 3**.)

Discussion

While mock trails are a common educational endeavor in law schools, their use in clinician training schools (eg, medical school, PA school, etc.) and residency education programs has been less widespread. To date, when used in a medical setting, mock trials have tended to focus on providing a broad overview of the medicolegal process or have focused more narrowly on preparing participants for potential work as an expert witness.[10-12,14] While our mock trial provided an overview of the legal process, the primary goal of our intervention was to provide participants with practical tips that could be used to improve patient safety and documentation, and potentially mitigate their medicolegal risk.

Our data show that when used as an educational endeavor, mock trials can influence future clinical practice. Across a variety of disciplines, participants reported that the defendant met the standard of care and that they did not feel as if the case should be settled with an admission of negligence. Despite being overwhelmingly supportive of the physician's case, a large majority of

participants reported that they would change their practice based on the experience of watching the mock trial.

One of the main points discussed during the presentation involved discrepancies in the medical record. While documentation is often considered to be an area of enhanced risk in lawsuits, to date there appears to be a significant amount of variability when it comes to formal training in this area. Wittels, et al found that only 63% of EM clerkships allowed students to document patient encounters in the medical record. Somewhat ironically, 60% of programs reported that they limited student documentation out of concern for increased medical liability.[15] Our data suggest that exposure to a mock trial allowed participants at various levels of training to learn specific techniques that would help them further refine their documentation practices.

Increasing the rate of knowledge translation is a crucial, and at times difficult, goal of all educational endeavors. It is estimated that it takes on average 17 years for new information to work its way into routine clinical practice.[16] Novel endeavors such as our mock trial may help reduce this gap between acquisition of new knowledge and implementation at the bedside.

Previous studies have found that participants who stated that they were interested in making practice changes were much more likely to have made these adjustments within 30 days compared with similar participants who did not make similar statements.[17] In our study, the majority of participants reported that they would change their clinical practice as a result of the mock trial. This finding is notable in light of the fact that 94% of physician participants stated that they thought the defendant met the standard of care. This willingness to change practice despite being in support of the litigated case suggests that participating in a mock trial may equip clinicians to further refine their medical practice. To our knowledge, this mock trial was seen by the most live viewers in the history of such endeavors, and this is the largest study ever performed of potential for practice change from a mock trial. (Note: The entire video of the trial can be viewed at: https://www.atls2020.com/atls2020. Another example of a mock trial, with some of the same participants, can be viewed at: https://emcrit.org/emcrit/refractory-anaphylaxis-mock-trial/).

Limitations

Limitations include all the shortcomings inherent in survey data. Though the respondents answered that they would change their documentation and practice, we do not know if this actually occurred. There were participants from many institutions around the country, but the mock trial occurred at only one institution and the results could have been affected by the specific attorneys, experts, and defendant, and therefore may not be generalizable to all emergency clinicians.

Participants were excluded if they did not watch "all or almost all" of the trial, but we did not independently verify whether the 404 included study participants had watched or concentrated on the mock trial uninterrupted. Data were not available on participants who watched the trial but did not complete any of the survey.

Conclusion

Although the vast majority of participants maintained that the defendant in the mock trial met the standard of care, a large percentage stated that they planned to change both their future medical practice and documentation as a result of having viewed the mock trial. Our data suggest that the use of mock trials for medical education can influence clinicians' future practice. ■

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Case Report

CME: This peer-reviewed article is offered for AMA PRA Category 1 Credit.™
See **CME Quiz Questions** on page 11.

Posterior Shoulder Pain—Not Always a Muscle Spasm

Urgent message: Patients present to urgent care with a variety of complaints, many of which are common—even if they are the result of an uncommon condition. It is important that the provider develop a broad differential diagnosis as they approach these problems.

RICHARD A GINNETTI, MD, MBA, CPE and JUSTIN HOLSCHBACH, MD

Case Presentation

History

A 52-year-old male presents to urgent care with the chief complaint of new lower posterior neck and right shoulder pain of 5 days' duration. He describes the pain as "aching." It is aggravated by movement of his neck or shoulder. He feels that he may have "slept on it wrong." There is no history of trauma. He denies headache, fever, numbness, or weakness in the right arm and neck. His is right hand dominant. His past medical history is significant for left nephrectomy for T1b Grade 2 renal cell carcinoma 9 years ago. He takes no chronic medications and has no known drug allergies.

Physical Examination

Physical exam reveals a slightly overweight male in no apparent distress. Vital signs:

- Blood pressure 156/98
- Pulse 90/min
- Respiratory Rate 16/min
- Temperature 97.9° F
- Weight 257 lbs
- Height 73 inches

The patient's head was normocephalic and atraumatic. He has tenderness in the right posterior neck and shoulder. He has pain with normal range of motion (NROM) of the neck (which was supple) and shoulders. He had normal upper extremity strength.

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Follow-Up

The patient presented to the emergency department 3 days later after lack of response to methylprednisolone and cyclobenzaprine prescribed initially. Cervical spine x-rays demonstrated straightening of the cervical lordosis. He was discharged on oral medication. Three weeks later he presented to his primary care provider. Examination at that time was significant for Spurling's test with pain in the neck without radiation to the right arm. Radial pulses and temperature of hands were normal. He had 4/5 strength in the right biceps; otherwise no weakness was noted. He had an MRI of the cervical spine with mild spinal stenosis and mild broad-based disc herniation at C4-C5 and C5-C6. He was referred for elec-

Author affiliations: Richard A. Ginnetti MD, MBA, CPE, OSF Medical Group; Family and Community Medicine, Southern Illinois University School of Medicine. **Justin J Holschbach MD**, OSF Healthcare Family Medicine; University of Illinois College of Medicine Peoria; Southern Illinois University College of Medicine. The authors have no relevant financial relationships with any commercial interests.

Table 1. Considerations in Patients Presenting with Neck and Shoulder Pain and Weakness[4,5]

• Cervical radiculopathy • Glenohumeral bursitis • Rotator cuff tendonitis • Infectious peripheral neuropathy • Malignancy • Herpes zoster	• Shoulder sprain • Stroke • Transverse myelitis • Parsonage-Turner syndrome • Traction injury to brachial plexus

tromyography (EMG) and nerve conduction study, but symptoms resolved prior to his consultation. He was diagnosed with Parsonage-Turner syndrome (PTS).

The Clinical Entity

PTS, also known as neuralgic amyotrophy and brachial plexus neuritis, is an uncommon cause of upper extremity pain and weakness. A series of 136 case was described by M.J. Parsonage and J.W Turner.[1] The common presentation is severe pain in the shoulder and arm followed by development of weakness over days or weeks.[2,3] This condition, which has been noted to wake patients from sleep,[2] is often misdiagnosed as cervical radiculopathy.

Etiology and Epidemiology

Idiopathic and hereditary forms of neuralgic amyotrophy have been identified. The exact cause of the idiopathic form has not been identified but potential triggers include infection, antecedent immunization, Hepatitis B, and strenuous exercise.[2,4,5]

This condition most commonly occurs in males between 20 and 60 years of age.[2] Classically, the incidence of brachial plexus neuritis was thought to be approximately two cases per 100,000 persons.[2,4] In recent years it is felt to be more common than previously recognized.[6]

Differential Diagnosis

Diagnosis of PTS is mainly clinical and made by exclusion of other conditions. It is often confused with more common conditions involving the cervical spine and rotator cuff disease. (See **Table 1**.)

Evaluation

Laboratory abnormalities associated with neuralgic amyotrophy are unremarkable. Blood tests may show mildly abnormal liver function tests but inflammatory markers such as erythrocyte sedimentation rate and C-reactive protein are often normal.[4,6] Evaluation on the cerebrospinal fluid could show a mildly elevated protein.[7]

Patients may start an imaging evaluation with plain cervical spine x-rays, shoulder x-ray, and possibly a chest x-ray to rule out a Pancoast tumor of the lung. MRI exams are obtained in the evaluation of these patients for not only the evaluation of the condition but also for exclusion of some of the conditions listed previously. With the advancement of MRI and ultrasound technology, structural peripheral nerve abnormalities called hourglass constrictions have been identified in some patients.[8,9]

Nerve conduction studies and EMG are essential in confirming PTS and excluding other causes. EMG finding may vary from mild to extensive denervation of the affected muscle group.[10]

Treatment

Treatment in the acute phase of neuralgic amyotrophy involves adequate pain control. Pain can be severe and may require multimodal analgesia. Early corticosteroids may improve pain and speed up recovery.[11] In patients that have failed conservative therapies, surgical options may be considered.[8]

Conclusion

While cervical and shoulder pain are common complaints in urgent care, it is imperative to develop a broad differential diagnosis. As noted here, a common complaint was caused by an uncommon condition.

The patient experienced a fairly typical course for a patient with PTS. He presented with idiopathic pain and then progressed to weakness in his upper extremity. He made a full recovery; unfortunately, this is not the case for all patients. One large study showed 60% of patients still experienced pain 6 to 24 months in the clinical course and 80% had difficulty performing overhead tasks.[6]

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ABSTRACTS IN URGENT CARE

- Surgery—or Not—for Appendicitis?
- Oral Analgesics and Musculoskeletal Extremity Pain
- What Patients Don't Know About Ionizing Radiation
- Risk with NSAIDs, Cox-2 Inhibitors, and Opioids in Fractures
- Inhaled Budesonide for COVID-19
- Spread of COVID-19 within the Household

IVAN KOAY, MBCHB, FRNZCUC, MD

Nonoperative Management of Acute Appendicitis

Take-home point: This study adds to a growing body of literature suggesting that, in select patients, a nonsurgical approach to appendicitis management leads to similar outcomes.

Citation: Flum DR, Davidson GH, Monsell SE, et al. A randomized trial comparing antibiotics with appendectomy for appendicitis. *N Engl J Med*. 2020 Nov 12;383(20):1907-1919.

Relevance: Many patients prefer to not undergo surgery and/or are high risk for anesthesia-related problems. Determining the effectiveness of antibiotics alone for appendicitis holds promise for reducing need for surgery in this very common condition.

Study summary: This was a pragmatic, nonblinded, noninferiority randomized trial comparing antibiotic therapy (24 hours of IV antibiotics followed by 9 days of oral antibiotics for a total of a 10-day course) with surgical appendectomy in patients with imaging-confirmed appendicitis at 25 U.S. centers. Participants were randomly assigned to receive antibiotics or appendectomy. The primary outcome was 30-day health status, which was assessed with the use of the European Quality of Life–5 Dimensions (EQ-5D) questionnaire.

The authors enrolled 1,552 participants, with 776 randomized to the antibiotics-only group and the immediate appendectomy group. The mean 30-day EQ-5D scores were not significantly different, demonstrating noninferiority of antibiotics. A subgroup analysis of patients with appendicolith and those without also showed noninferiority of antibiotics with respect to the primary outcome. Rates of perforation and need for appendectomy within 90 days, however, were significantly higher among patients with appendicolith present on imaging.

Editor's comments: While this was a large study, caution should be exercised in interpreting these results too broadly, as surgical treatment for appendicitis remains the standard of care in the U.S. at this time. Patients with appendicoliths identified on CT were at higher risk for failing nonsurgical management. Patients in the antibiotics group were monitored in the hospital for 24 hours and received IV antibiotics initially; therefore, these results cannot be generally extrapolated to the care of urgent care patients with appendicitis. ■

Ivan Koay, MBChB, FRNZCUC, MD is an urgent care physician; RNZCUC Examiner; Education Faculty for the RCSI Fellowship of Urgent Care Medicine; and Head of Faculty na hÉireann RNZCUC.

Efficacy of Oral Analgesics in Treatment of Acute Musculoskeletal Extremity Pain

Take-home point: There was no statistically significant difference in efficacy of five oral analgesic combinations used in the treatment of acute musculoskeletal extremity pain, including those without opioids.

Citation: Bijur P, Friedman B, Irizarry E, et al. A randomized trial comparing the efficacy of five oral analgesics for treatment of acute musculoskeletal extremity pain in the emergency department. *Ann Emerg Med*. 2021;77(3):345-356.

Relevance: Musculoskeletal pain is among the most common reasons for UC presentation. While minimizing suffering is a priority, it is also necessary to reduce risk for abuse by employing opioids only when truly indicated.

Study summary: This was a randomized double-blind superiority trial of five oral analgesic combination medications based in two academic emergency departments in the Bronx, NYC. The authors enrolled 600 patients complaining of acute musculoskeletal pain in one or more extremity of less than 7 days duration. Subjects were block randomized, with 120 patients in each group, and received either 400 mg ibuprofen/1,000 mg acetamino-

phen, 800 mg ibuprofen/1,000 mg acetaminophen, 30 mg codeine/300 mg acetaminophen, 5 mg hydrocodone/300mg acetaminophen, or 5 mg oxycodone/325 mg acetaminophen. The efficacy of the analgesics was assessed at 1 and 2 hours after baseline using a numeric rating scale (NRS). Patients who received rescue medication were asked to rate their pain immediately before receipt of the additional analgesics.

The mean reduction in pain scores from baseline to 1-hour post baseline ranged from 3.0-3.4 NRS units across the five groups with no statistically significant differences in treatment responses (p=0.69). The findings were similar again from baseline after 2 hours. Roughly one quarter of patients in each group received additional "rescue" analgesics, but this did not differ by group. The proportion of patients satisfied with pain relief and time to pain control, and preference for the same analgesic in the future, did not differ significantly by treatment group.

Editor's comments: This was a study conducted in two urban EDs with a relatively heterogenous population, potentially limiting generalizability. The doses of opioids were low, and higher doses of opioids were not assessed. ■

Patients' Perceptions of Doses of Ionizing Radiation from Medical Imaging

Take-home point: Patients undergoing medical imaging have inaccurate perceptions about the associated doses of radiation.

Citation: Bastiani L, Paolicchi F, Faggioni L, et al. Patient perceptions and knowledge of ionizing radiation from medical imaging. *JAMA Netw Open*. 2021;1;4(10):e2128561.

Relevance: Patients commonly request diagnostic imaging studies that would result in ionizing radiation exposure. Urgent care clinicians should be aware of what level of ionizing radiation exposure and risk understanding patients are likely to have.

Study summary: This was a multicenter, nationwide survey study with prospective data collection of patients awaiting medical imaging examinations of all modalities in 16 Italian hospitals. Patients were asked questions aimed to explore their knowledge about ionizing radiation risks using the "Knowledge About Ionizing Radiation Questionnaire" (KIRQ).

The authors found that 98.5% of the 2,866 survey respondents reported having undergone at least one radiological test in their lifetime. More than half (55.1%) of respondents did not know that a chest computed tomography (CT) delivers more radiation than chest radiography (XR). Further, 44.4% of patients rated their knowledge about radiation risks as inadequate. They reported being informed about radiation risks through media (eg, radio and television [27.6%]) and from the internet (eg, Facebook and other social media [25.3%]). And 80.4% expressed a preference to receive information of radiation exposure from healthcare professionals. Patient factors associated with better ionizing radiation knowledge were higher educational level, adequate self-perception of radiation knowledge, higher number of imaging examinations performed, and having received radiation information from a healthcare professional.

Editor's comments: The results suggest that patients are likely to have inadequate understanding of ionizing radiation doses associated with medical imaging and their potential biologic effects. The vast majority of patients indicated that they would like to be educated about radiation from healthcare professionals. ■

Nonunion Risk in Treatment of Fractures with Nonselective NSAIDs, COX-2 Inhibitors, and Opioids

Take-home point: Results of this study suggest that COX-2 inhibitor use, but not nonselective NSAIDs, were associated with a greater risk of fracture nonunion.

Citation: George M, Baker J, Leonard C, et. al. Risk of nonunion with nonselective NSAIDs, COX-2 inhibitors, and opioids. *J Bone Joint Surg Am*. 2020;102(14):1230-1238.

Relevance: Historically, there have been largely theoretical concerns about the use of NSAIDs and the risk of fracture healing based on mostly nonclinical studies.

Study summary: This was a cohort-based study using a large healthcare claims database across the U.S. The authors focused on long-bone fractures and the prescription claims that were associated with the injuries. Filled prescription claims on the date of injury or the next 30 days were analyzed for nonselective NSAIDs, selective COX-2 inhibitors, and/or opioids. Nonunion episodes were identified by classification of claims as outpatient and inpatient treatments and visits.

The authors found 339,864 fracture episodes among 326,876 patients, with 304,721 episodes in patients with no prior NSAID or COX-2 prescriptions, and 269,841 episodes in patients with no prior opioid use. The prescription filling rates identified within 30 days of a fracture were 7.4% of an NSAID, 0.8% of a COX-2-inhibitor, and 45.9% of an opioid prescription. The filling of nonselective-NSAID prescriptions after fracture was not associated with nonunion (OR=1.07), while COX-2-inhibitor prescription was associated with a greater risk of a nonunion diagnosis plus procedure (OR=1.84) and of a nonunion diagnosis alone (OR=1.48). Prior use of NSAID or COX-2 inhibitor was associated with an increased risk of nonunion (OR=1.36 and 1.76, respectively).

Editor's comments: These data are based on insurance claims of filled prescriptions and there is no accounting for the use of nonprescribed NSAIDs. There may have been a bias to nonunion in the opioid-prescribing group because opioids are often prescribed for more severe fracture. While observational, these data cast significant doubt on the strict prohibition of nonselective NSAIDs for fracture-related analgesia. ■

COVID-19 Abstracts

Inhaled Budesonide for COVID-19 Treatment

Take-home point: Inhaled budesonide reduced time to recovery and potentially prevents hospital admissions for patients with COVID-19.

Citation: Yu L, Bafadhel M, Dorward J, et al. Inhaled budesonide for COVID-19 in people at high risk of complications in the community in the UK (PRINCIPLE): a randomised, controlled, open-label, adaptive platform trial. *Lancet*. 2021;398(10303):853-855.

Relevance: Finding effective treatments that will reduce recovery time and prevent hospitalization of patients with COVID-19 will help health systems cope with pandemic surges.

Study summary: This was a multicenter, open-label, multiarm, prospective, randomized controlled, adaptive platform trial of interventions against COVID-19 in people aged 65 years or older or 50 years or older with comorbidities, done remotely from a central trial site and at primary care centers in the United Kingdom. The platform trial allows for multiple treatments for the same disease to be assessed simultaneously. The interventions assessed in PRINCIPLE were hydroxychloroquine, azithromycin, doxycycline, colchicine, favipiravir, and, in this study, inhaled budesonide. Eligible participants were those who were diagnosed with COVID-19 via PCR-confirmed test or symptoms in the preceding 14 days. Eligible participants were randomized via a web-based randomization system to inhaled budesonide, usual care, or other treatments. Participants received usual care plus inhaled budesonide 800 µg twice daily for 14 days. Participants were followed up through an online, daily symptom diary for 28 days after randomization, supplemented with telephone calls on days 7, 14, and 28.

Out of 4,700 patients randomized, 1,073 receiving budesonide, 1,988 received usual care alone, and 1,639 received other treatments. The median time to recovery was 11 days in the inhaled budesonide group compared with 15 days in the usual care group. Nine percent of participants were admitted to the hospital or died due to COVID-19 in the inhaled budesonide group compared with 11% in the usual care group.

Editor's comments: This study was UK-based and used high doses of budesonide, which may not be available in other countries/healthcare settings. Alternative inhaled corticosteroids that may be available elsewhere were not studied, and therefore their efficacy cannot be extrapolated from this study. Efficacy of inhaled budesonide treatment against newer variants of COVID-19 is also unclear. ■

Household COVID-19 Infection Risks

Take-home point: In this study, children had similar infection risks as adults within the same household.

Citation: Dawood F, Porucznik C, Veguilla V, et al. Incidence rates, household infection risk, and clinical characteristics of SARS-CoV-2 infection among children and adults in Utah and New York City, New York. *JAMA Pediatr*. 2022;176(1):59-67.

Relevance: Our knowledge of COVID-19 infection and transmission continues to evolve. Understanding the transmissibility of the disease amongst adults and children will help inform prevention strategies.

Study summary: This was a convenience sample cohort study of households with one or more children up to 17 years of age from New York City and selected counties in Utah. At enrollment, telephone and online surveys were performed to collect data regarding the composition of households, ethnicity, school and childcare attendance, medical histories, and previous COVID-19 infections. Participants were asked to self-collect midturbinate flocked nasal swabs in viral transport media every week, regardless of illness symptoms.

The authors enrolled 1,236 participants from 310 households with 14% under 4 years of age, 25% ages 5 to 11 years, 13% ages 12 to 17 years, and 47% 18 years or older. Among the adults, 57% received one or more doses of a COVID-19 vaccine during the study period, with 19% partially vaccinated and 38% fully vaccinated. Thirty-six percent reported COVID-19 symptoms during the study period, with 8% having incident infections confirmed by RT-PCR. There were no incident infections in adults postvaccination. There was a 0.4%–0.8% risk of infection per week among study households. Adults and children of all ages had similar risks of infection, but half of COVID-19 infections among children were asymptomatic. Measured and subjective fever were infrequent symptoms among both adults and children. Households were also noted to be common sites for transmission of infection.

Editor's comments: This study offers several valuable insights about COVID-19 symptomatology and risk of infection in children and adults. However, it's unclear if these trends will be comparable with newer variants of COVID-19. ■

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A 30-Year-Old with a Painful Neck 'Bump' and Difficulty Swallowing

Figure 1.

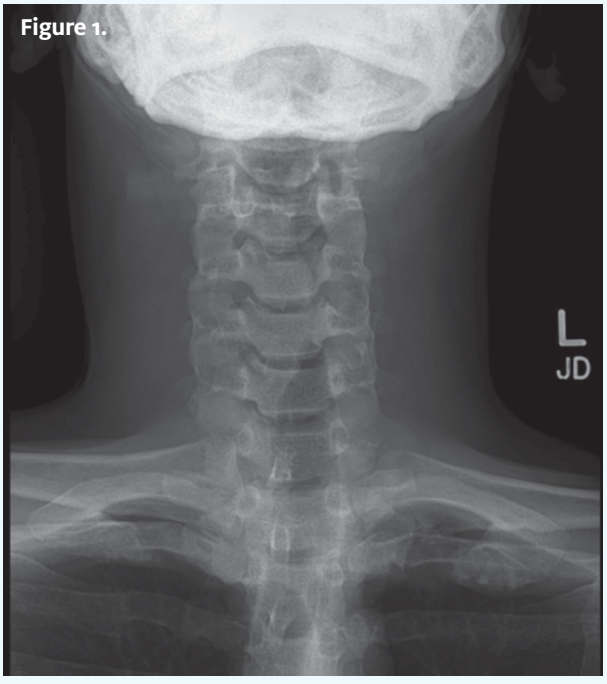


Figure 2.

Case

The patient is a 30-year-old male who presents with 2 days of difficulty swallowing and what he calls a painful "bump" on the right side of his neck.

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 3.

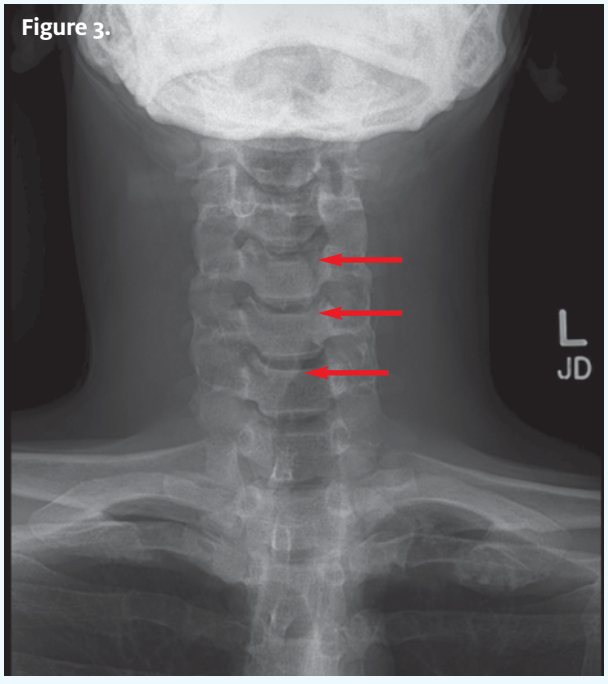
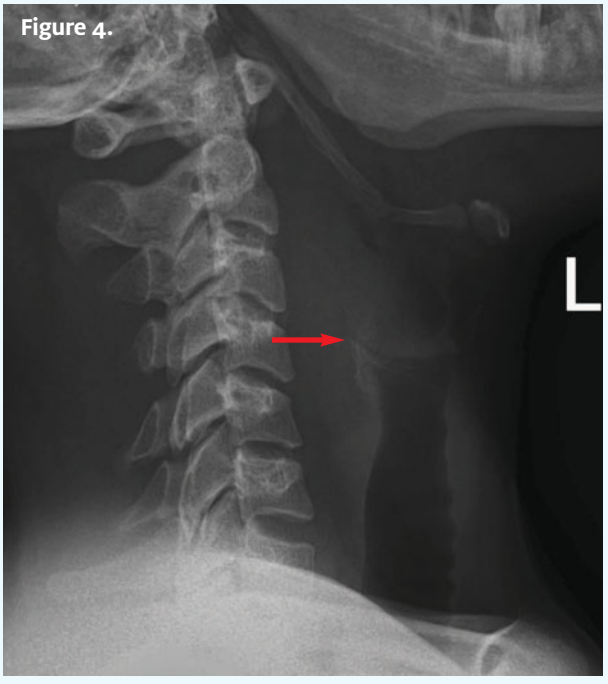


Figure 4.



Differential Diagnosis

- Infection (viral upper respiratory, cytomegalovirus, Epstein-Barr, staphylococcal, streptococcal, toxoplasmosis, *Bartonella*, tuberculosis, HIV)
- Acute sialadenitis
- Right neck mass
- Parotid lymphadenopathy

Diagnosis

The x-rays reveal a large, rounded extrinsic compression of the right-side airway on AP view and prevertebral soft tissue thickening on the lateral view. These findings are consistent with a diagnosis of right neck mass.

Learnings/What to Look for

- Anatomic considerations: This is an anterior process, so likely in anterior aspect of neck

Pearls for Urgent Care Management

- Further imaging evaluation with ultrasound/CT is warranted immediately

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

CLINICAL CHALLENGE: CASE 2

A 13-Year-Old Girl with Fever, Chills, Dry Cough, and Myalgia

Figure 1.

Case

A mother brings her 13-year-old daughter to your urgent care center with a complaint of fever, chills, dry cough, and myalgia for 3 days. On exam, the patient is febrile (101° F). In addition, there is conjunctival injection and blanching erythematous patches on the face and neck. The mother mentions that the family returned from a trip to Brazil 10 days prior. While traveling they ate local food, drank local (unfiltered) water, sustained a few mosquito bites, and went whitewater rafting.

View the image in this context 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

- Influenza
- Legionellosis
- Leptospirosis
- Malaria

Diagnosis

This patient was diagnosed with leptospirosis, a bacterial zoonotic infection caused by any of the serovarieties of the spirochetes from the *Leptospira* species. There is an incubation period of 5 to 14 days. The geographic distribution is worldwide, but it is endemic in tropical climates and sporadic in temperate climates. It is more common in summer and after floods.

Learnings/What to Look for

- Leptospirosis may be difficult to diagnose because its initial symptoms (remittent fever, chills or rigors, myalgia, headache, low back pain, and conjunctivitis/uveitis) are similar to other diseases. Some cases have few to no symptoms. However, early diagnosis is crucial as successful treatment should be initiated, ideally, within the first 4 days of illness
- Conjunctival suffusion (conjunctival redness without inflammatory exudate) is a classic clinical sign. Some cases may also feature a dry cough, nausea, vomiting, diarrhea, abdominal pain, and a pretibial rash of erythematous papules
- Leptospirosis may progress to Weil disease, a more severe form, which includes jaundice, kidney and/or liver failure, meningitis, pneumonitis with hemoptysis, acute respiratory distress, hemorrhage, shock, and death

Pearls for Urgent Care Management

- Leptospirosis is treated with antibiotics (ie, doxycycline or azithromycin) which should be given early in the course of the disease
- Intravenous antibiotics may be required for persons with more severe symptoms

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

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INSIGHTS IN IMAGES

CLINICAL CHALLENGE: CASE 3

An 81-Year-Old Female with a History of A-Fib and a Recent Syncope Event

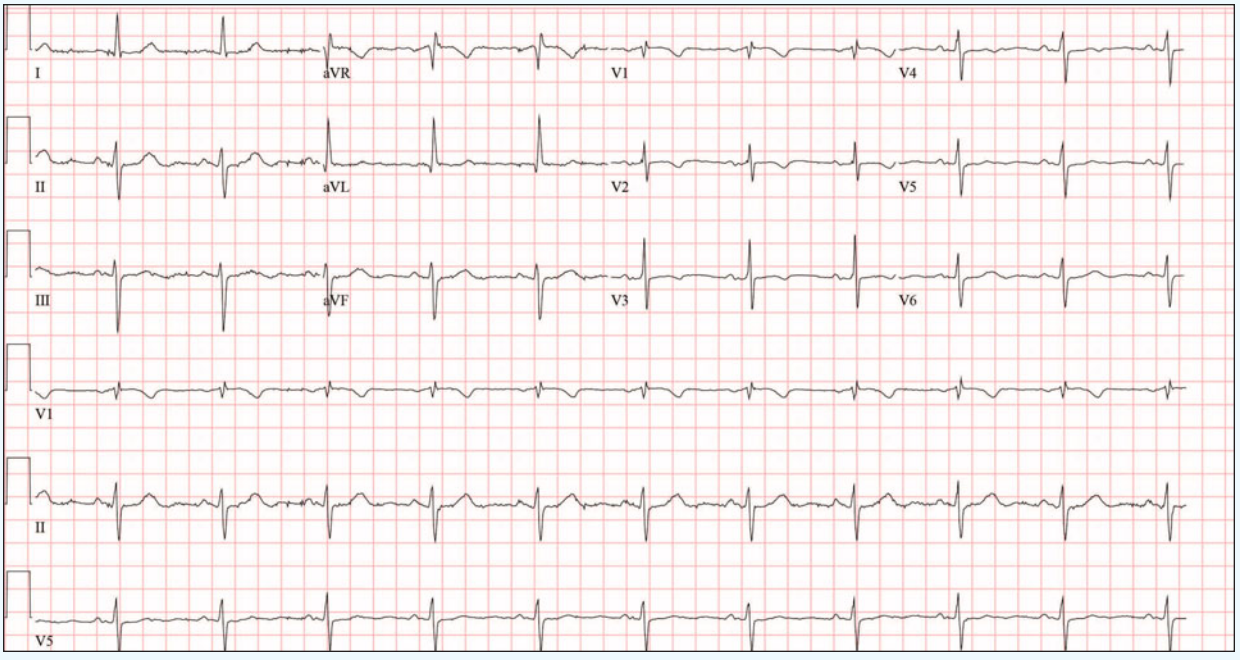

Figure 1. Initial ECG.

The patient is an 81-year-old female with past medical history of atrial fibrillation on apixaban who presents to urgent care after a syncopal episode 30 minutes prior to arrival. The patient felt lightheaded while being pushed in her wheelchair and then lost consciousness. There was no trauma. She returned to baseline approximately 2 minutes after the event. There was no seizure activity. The patient denied associated chest pain, shortness of breath, headache, urinary or fecal incontinence, tongue biting or any other complaints. On evaluation, the patient's vital signs are normal. She is breathing comfortably and speaking in complete sentences.

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

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

THE RESOLUTION

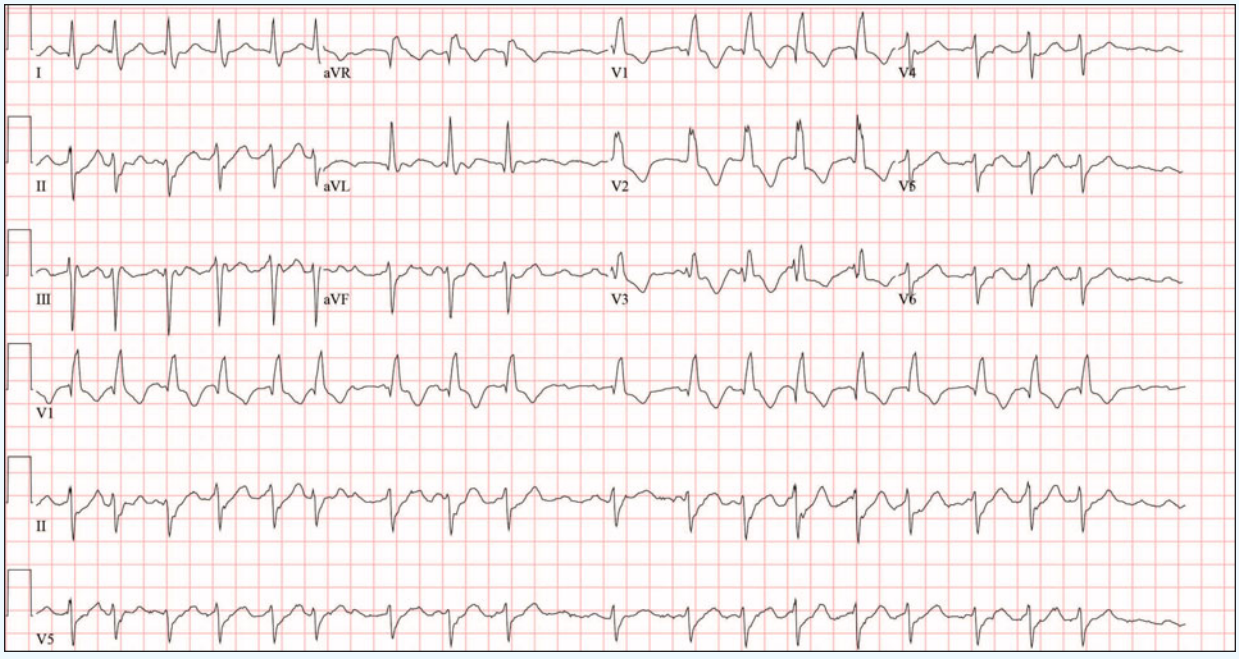

Figure 2. Repeat ECG.

Differential Diagnosis

- ST-Elevation myocardial infarction (STEMI)
- Ventricular tachycardia
- Hyperkalemia
- Atrial fibrillation with rapid ventricular response and rate-related right bundle branch block (RBBB)
- Atrial fibrillation with pre-excitation (Wolf-Parkinson-White syndrome)

Diagnosis

The repeat ECG (**Figure 2**) reveals atrial fibrillation with rapid ventricular response at a rate of 132 beats per minute. There is a left axis deviation and a wide QRS with rSR' in V1-V3 and a broad, slurred S-waves laterally—consistent with RBBB. There are no ST deviations. When comparing with the prior ECG, the RBBB is new.

The current conceptual understanding of the trifascicular framework of the intraventricular conduction system derives from a series of seminal papers by Rosenbaum, et al from 1969 to 1973. These works elucidated three conduction terminals—one in the right ventricle (the right bundle) and two in the left ventricle (the anterior and posterior divisions of the left bundle).[1-3]

Conduction disturbances of any or all three conduction terminals may result from structural abnormalities of the His-Purkinje system caused by necrosis, fibrosis, calcification, infiltrative disease, electrolyte disturbances, or impaired vascular supply.[4]

Rate-related bundle branch blocks were first described in the mid-20th century. In most cases, rate-related bundle branch blocks occur due to a prolonged refractory period of a diseased bundle. When a critical heart rate is exceeded, the diseased bundle fails.[5,6]

Rate-related bundle branch blocks can be especially challenging to diagnose when the rate is regular and fast (eg, supraventricular tachycardia), creating a regular, wide complex tachycardia that appears like ventricular tachycardia. The irregularly irregular rhythm makes ventricular tachycardia unlikely and favors atrial fibrillation. There is no evidence of ST-elevation or findings of hyperkalemia (eg, peaked T waves). Atrial fibrillation with pre-excitation (ie, Wolf-Parkinson-White) characteristically produces a rate that exceeds 250 bpm at times and has variable QRS morphologies, neither of which is present in this ECG.

Clinical Relevance

Syncope is a transient, self-limited loss of consciousness and postural tone, followed by spontaneous recovery back to baseline. It is a common chief complaint in the urgent care environment. While the underlying cause is not often determined in the urgent care setting, it is important to rule out severe or life-threatening etiologies of syncope. This is best done by a thorough history and physical exam, and careful examination of the ECG.

THE RESOLUTION

Cardiac arrhythmias are an extremely important consideration when evaluating a patient with syncope. This patient initially presented in sinus rhythm with a left anterior fascicular block. However, she became symptomatic when she was in atrial fibrillation with rapid ventricular response and demonstrated a new, rate-related RBBB. These ECGs together demonstrate significant underlying conduction disease (ie, RBBB, left anterior fascicular block). This patient should be evaluated by a cardiologist/electrophysiologist urgently.

Learnings/What to Look for

- Right bundle branch blocks can be identified by a QRS >120 msec, rSR' in V1-V3, and a broad, slurred S-wave in the lateral leads (I, aVL, V5, and V6)
- Left anterior fascicular blocks can be identified by left axis deviation, rS complexes in leads II, III, aVF (small R waves and deep S waves), qR complexes in leads I, aVL, (small Q waves and tall R waves)
- Rate-related bundle branch blocks happen when a diseased bundle encounters a critical rate
- Patients with significant conduction disease are at higher risk of dysrhythmias

Pearls for Urgent Care Management

- All patients with syncope should receive an ECG
- Utilize the clinical history and exam in tandem with the ECG to identify the etiology of syncope
- Syncope presumed secondary to cardiac arrhythmia should be transferred to a facility with cardiology capabilities

References

1. Rosenbaum MB. The hemiblocks: diagnostic criteria and clinical significance. *Mod Concepts Cardiovasc Dis*. 1970;39(12):141-146.
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4. Surawicz B, Childers R, Deal BJ, Gettes LS. AHA/ACCF/HRS Recommendations for the Standardization and Interpretation of the Electrocardiogram. Part III: Intraventricular Conduction Disturbances a Scientific Statement from the American Heart Association Electrocardiography and Arrhythmias Committee, Council on Clinical Cardiology; the American College of Cardiology Foundation; and the Heart Rhythm Society. *J Am Coll Cardiol*. 2009;53(11):992-1002.
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Acknowledgment: JUCM *appreciates the assistance of ECG Stampede (www.ecgstampede.com) in sourcing content for electrocardiogram-based cases for Insights in Images each month.*

ECG STAMPEDE

Refunds: How to Avoid Them

MONTE SANDLER

Refunds have always been a challenge in healthcare. Not only do they create an administrative burden but there is also the potential for compliance risk.

Some common causes for refunds are:

- Not validating the patient's insurance eligibility and collecting the wrong copay amount
- Choosing a blanket amount to collect from all patients up front regardless of whether they have insurance (ie, over collecting at the time of service)
- Sending statements too early, causing duplicate payments

Is a credit balance always a refund? No. Credit balances require research to determine if they are the result of a posting error. An example of this is posting a patient payment to the wrong date of service. For insurance payments, clinics often incorrectly post a contractual insurance reversal on insurance overpayments instead of waiting for insurance to recoup and post automatically through ERA (electronic remittance advice) which causes invalid credits.

A few best practices to consider for your clinic to help tame this "Refund Beast":

- Verify there are no open balances before refunding a patient.
- Check that visits are closed. Open visits may contain credits when there are no charges yet associated to the visits to apply the monies.
- Allow insurance plans to offset rather than writing a check. Insurance refund requests have a time limit before recouping from future payments occurs. If a check gets sent to the payer and the deadline is missed, the insurance plan may also recoup the payment. This will create open account receivables and it is extremely difficult to get repayment.
- For coordination of benefit (COB) errors, where the primary and secondary insurance pay as primary, notify both payers and let them do the work to reprocess the claim. Otherwise, these errors by the insurance plan can create challenging work to determine how the claim should have paid and payments can be returned based on assumptions only. Let the payer do the research and reprocess the claim. This puts the work and burden on them.

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

"The crazy number of visits due to COVID-19 creates plenty of pressure just to get bills out and to post the payments received. It is critical, however, to keep your eyes on potential refunds."

There are instances when you should immediately call the insurance plan to recoup a payment. The first is when the wrong patient is billed in error or a service was not performed. Mistakes happen. Occasionally monies are received for the wrong practice. Insurance companies make mistakes, as well. If you receive a payment that you should not have, it should be refunded immediately.

Self-disclosure comes into play when you identify an incorrect billing practice. Maybe you have been using the wrong CPT code to report a service resulting in overpayment. The Affordable Care Act added the 60-Day Rule to the Social Security Act that requires a person who has received an overpayment to report and return the overpayment to the appropriate entity and to notify the entity to which the overpayment was returned in writing of the reason for the overpayment. The overpayment must be reported and returned by the date that is 60 days after the date on which the overpayment was "identified."

The Centers for Medicare & Medicaid Services (CMS) defines "identification" to mean the following: "A person has identified an overpayment when the person has, or should have through the exercise of reasonable diligence, determined that the person has received an overpayment and quantified the amount of the overpayment." Hopefully, these situations are rare.

The crazy number of visits due to COVID-19 creates plenty of pressure just to get bills out and to post the payments received. It is critical, however, to keep your eyes on potential refunds as you don't want to create any other problems related to compliance and unhappy patients. ■

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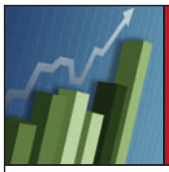
MEDICAL EQUIPMENT/SUPPLIES



DEVELOPING DATA

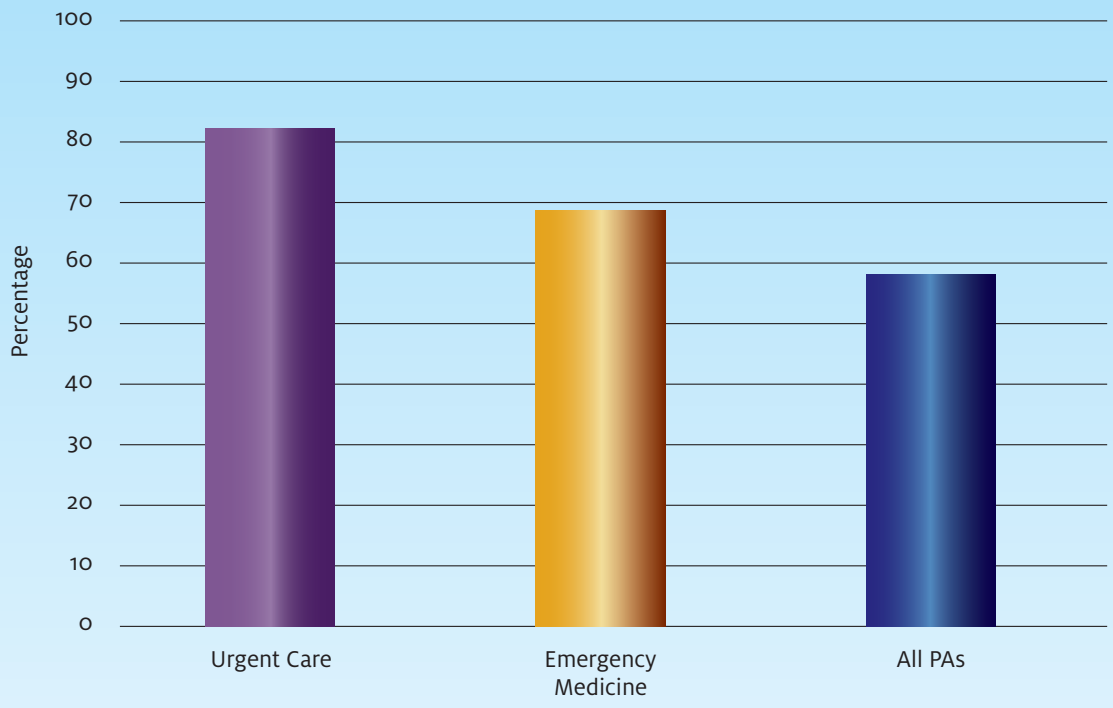
PAs Aren't Just 'Assisting' in Providing Urgent Care

In this issue's Health Law article, What's the Best Policy for Unlocking an Urgent Care's Doors When a Provider Isn't Present? (page 19), author Alan Ayers, MBA, MAcc points to the capabilities of advanced practice providers as one rationale some urgent care operators use when opting to stay open for business when a physician isn't present. You could even go a step further and make the argument that the degree of direct care provided by APPs is one thing that distinguishes urgent care from other settings.

One study of the role physician assistants play in various practice settings revealed that urgent care PAs are entrusted with direct patient care to a greater degree than their peers in emergency medicine, primary care, retail, and student health centers. The graph below compares the proportion of PAs who perform procedures (eg, suturing, incision and drainage) in various settings.

PAs who practice urgent care are by far the most likely to be performing minor surgical procedures; 82.3% of PAs in urgent care conduct minor surgeries, compared with 69.2% of PAs in emergency medicine and 58.7% of all PAs. In this way, PAs in urgent care are more like those in emergency medicine than all other PAs combined. That PAs in urgent care perform the highest percentage of minor surgical procedures is unsurprising, given the scope of practice of urgent care medicine. ■

PERCENTAGE OF PAS WHO PERFORM PROCEDURES IN URGENT CARE VS OTHER SETTINGS



Data source: Ritsema TS, Cawley JF, Smith N. Physician assistants in urgent care. *J Am Acad Physician Assistants.* 2018;31(8):40–44.

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