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URGENT CARE ASSOCIATION

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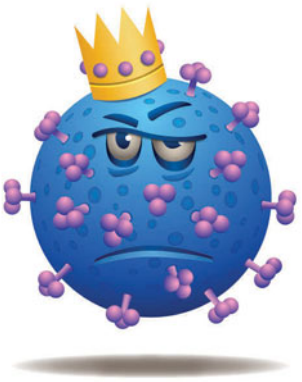

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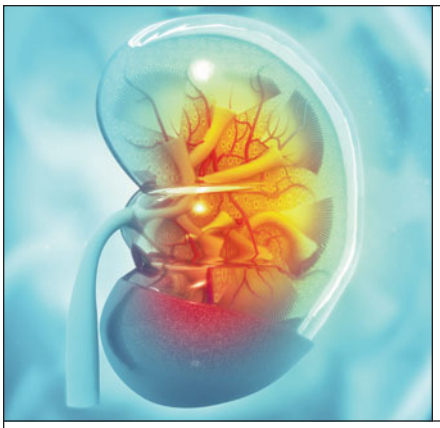

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LETTER FROM THE EDITOR-IN-CHIEF

Our Success in Urgent Care is Defined by How We Play Our 'Greatest Hits'

Recently one evening, I meandered into a bar on iconic 6th Street in Austin, Texas— America's epicenter for live music. Venues throughout the district feature free, live performances every night from some of the nation's most talented musicians. On that particular evening, however, the sounds from one electric guitar coming from a small stage in a dark room cut through the humid air and grabbed my attention. I wandered in, found a seat at the bar, and took in the guitarist's performance. He was nothing short of a master. His look and style reminded me of a young Stevie Ray Vaughn, and he played with similar virtuosity.

As a hobby guitarist myself, what most impressed me, as I watched his fingers move nimbly and effortlessly up and down the neck of the instrument, was his ability to launch into any requested song without hesitation. He only paused long enough between tunes so he could hear the shout of the next request. Then an instant later, he was onto another flawless rendering of whatever song was suggested, from Led Zeppelin to Bob Marley to Johnny Cash to Metallica. The alacrity and deftness with which he switched between styles reminded me of a polyglot switching between languages with each sentence. Watching this level of talent and range on the guitar was humbling to say the least.

We are at liberty to define success however we see fit

Achieving Mastery

I've heard comparable sentiments from newly minted practitioners as they contemplate careers in urgent care (UC): After seeing a master UC clinician in action, practicing in UC seems understandably daunting. Since the fall of 2023, I've had the privilege to serve as one of the lead instructors for an UC clinical fellowship program for new graduate advanced practice practitioners (APP). These fellows have completed their APP schooling and received their licenses. In the eyes of their respective boards, they've met all the benchmarks required for (relatively) independent practice. However, simultaneously, our fellows also realize that it would be extremely stressful to dive headlong into UC practice without additional training—not to mention also potentially precarious for their patients.

While the fellowship lasts a full year, many of the trainees I work with still feel apprehensive about their ability to achieve mastery over that time, and that worry is justified. Reaching high-level fluency during a training period of this duration is unrealistic, if not impossible. The shortest physician residency programs involve 3 intensive years of supervised education after successful completion of medical school. Yet, I can still clearly recall exiting my training program feeling incompletely prepared for independent practice.

However, UC centers nationwide are facing clinician shortages and simultaneously continuing to move increasingly toward an APP-dominant staffing model. While the number of licensed APPs in the U.S. is undoubtedly growing, there remains a chasmic shortfall of those with UC experience and proficiency, leaving many UC organizations stuck in a state of perpetual understaffing.[1,2,3] If leaders for UC centers wish to keep up with this demand, some form of on-the-job training, like the fellowship program mentioned above, likely needs to be at least part of the solution.

The question then becomes: What is the appropriate goal for these training programs? It's a critical question to answer because the expense of paying senior clinicians for supervision and didactic time can be considerable, especially when such programs arguably need to be 6-12 months in duration at minimum. In other words, how can UC leaders feel confident in knowing when newly minted clinicians and those without prior UC experience are ready to be released into the wild?

As there is no board certification for physicians or

equivalent certification for APPs, we've been left to figure this out for UC on our own. A number of possible solutions for determining clinicians' readiness for independent UC practice have been explored. These methods range from direct observation to chart audits to administering of proprietary competency tests. While there are cogent arguments for each of these tactics, alone or in combination, ultimately all permutations of assessment fall short of offering suitable assurance of a clinician's competence. Inventor Charles Kettering said, "a problem well stated is a problem half solved." Getting to a solution therefore depends on better elucidating the problem. So, let's distill the situation a bit further.

Clinical Competence in UC

What are the requisite components for clinical competence in UC? Sufficient proficiency requires, first and most obviously, an appropriate breadth and depth of clinical knowledge. Second, of equal importance, but less self-evident is the need for efficient decision making. With this combination, confidence can emerge. Without this form of appropriate confidence, clinicians simply will not be independently able to function at a level to allow them to handle the ubiquitous 40+ patient shifts.

So, to explore the issue further, the next question becomes how can we fast-track trainees towards a state of sufficient confidence to allow for them to keep patients safe and find the work sustainable? A significant source of this ongoing uncertainty seems to arise from the discrepancy between the novices' own level of performance and that of the seasoned UC clinicians they observe.

They're having the same experience I had while sitting in front of that small stage in Austin, watching the masterful guitarist with awe. If I believed "success" with the guitar meant matching his level of mastery, I'd be frozen and riddled with self-doubt as well. The power of success as a concept is that its definition is necessarily subjective. With thoughtful reflection, we are at liberty to define success however we see fit. While I greatly admired that musician, I realize I'll never play the guitar like him; I could very well inadvertently define success as such. In fact, it may even be human nature to do just that. If that had become my new bar for success as a guitarist, it would've seemed so unachievable so as to dissuade me from even practicing. Rather, since I've chosen personally to define success in this pursuit only as continuous improvement, I'm thankfully not left feeling hopelessly resigned to failure.

Clinical competence in urgent care medicine is exactly like this. We don't need the ability to play any song that's requested of us flawlessly. Instead, we simply need to be able to perform like a solid cover band. There is a social contract between cover bands and audiences, and it is a perfect analogy for the duty we have to our patients in UC. So let's explore this metaphor a bit further.

If you see a Grateful Dead cover band play a show, you know what to expect. The band likely will be playing songs only found on Grateful Dead albums. They probably won't be honoring requests for Guns 'n Roses tunes. On the flip side, however, we would rightfully expect for the musicians to be comfortable with the majority of the Grateful Dead's catalog, especially the hits, and to be able play those songs well. They wouldn't be violating the cover band social contract if they declined to play "Hey Jude," but they most certainly would be if they butchered "Friend of the Devil."

Similarly, it is not incumbent upon UC clinicians to diagnose and treat every ailment known to humankind. We are responsible only for mastering the catalog of conditions that fall into the category of acute, minor illnesses and injuries. Certainly, having familiarity with chronic and more life-threatening conditions has utility as well, but this is not requisite to fulfill the responsibility we have to our patients. There is tremendous power in this realization. Developing this awareness, liberated me from considerable angst I used to feel at work because it made the ask seem achievable.

Urgent Care's Greatest Hits

It's important to recognize the corollary of this expectation as well, however. While our expertise in every specialized area of medicine is not required, like the cover band, we are expected and required to be experts in what our "audience" shows up for: care for the common, lower acuity, acute presentations that we see on a regular basis. These include conditions like sinusitis, cough, dysuria, low back pain, ankle and wrist injuries, and vomiting, just to name a few. I call these "Urgent Care's Greatest Hits," and we must have the skills and knowledge to play them all with alacrity whenever we're called upon.

Thankfully, just like any cover band, we don't need come up with entirely new songs on our own. The greatest hits of UC exist in the form of clinical guidelines, most of which are supported by reasonably high-quality evidence. When we diagnose acute otitis media in a child, we don't have to figure out who to treat with antibiotics, for how long, and with which drug, based only on our experience and clinical reasoning. The American Academy of Pediatrics has outlined exactly how that "song" should sound. We just have to play it as it was

written.[4] Refraining from taking too many creative liberties with these guidelines is actually how we serve the audience (ie, our patients) best. This should offer consolation as it places discrete and attainable parameters on how broadly our expertise is expected to extend.

I've seen a few lackluster cover bands over the years, and they've all failed in the same ways. They didn't perform the songs they should've had down cold very well, either because they weren't as familiar with the music as they needed to be or because they took too much artistic license with their interpretations. Many UC clinicians unfortunately stumble in an analogous way. While the Infectious Disease Society of America (IDSA) guidelines on treating acute sinusitis—one of the most common conditions we see—clearly don't recommend antibiotics in afebrile patients with less than 10 days of symptoms, it is a relatively common practice to prescribe antibiotics for shorter duration sinus symptoms. Similarly, the same guidelines recommend amoxicillin-clavulanate or doxycycline for 5-7 days in adults meeting criteria for possible bacterial sinusitis, yet frequently many providers still reach for a Z-Pak or amoxicillin alone or opt for 10+ days of therapy – an unjustifiably long course of treatment.[5] Similarly, dissonant renditions of the treatment of acute bronchitis with antibiotics and non-radicular low back pain with steroids can also be heard coming from many UC centers with troubling frequency.

When I've raised concerns with the providers I supervise about the potential harms and lack of evidence basis for such care, I've often been met with resistance. The most common justification I hear in these settings for deviation from the guidelines centers around a perception that the stakes are low and deviations small. Ergo, the differences from best practices don't matter. While the consequences may be unapparent for any given patient, being able to treat these conditions correctly is truly the reason for urgent care's existence. If a Grateful Dead cover band consistently played a G instead of a C chord in the chorus of "Casey Jones," the difference in the song may not be apparent to every listener. However, this oversight more globally would suggest that the band was not terribly attentive to the quality of their performance, and most concerningly when playing a song that should be their core strength, or about the ex-

perience for their audience in general.

By its very nature, the vast majority of UC presentations are low acuity; many are even self-limited. However, what our patients are experiencing matters to them. That's why they seek our expertise. And most of the time, they've come to the right place. Over 95% of patients presenting to UC centers are not referred to an emergency department, and the 20 most common diagnoses made in UC comprise well over half of all visits.[6,7] In other words, most of our patients come in for problems that we can and do treat every day. So, while what's at stake for any individual case may seem inconsequential, if we choose to prescribe a less effective, more risky, more costly antibiotic for a longer duration than recommended for conditions we treat on a daily basis, like cystitis or sinusitis for example, this will lead to thousands of inappropriate prescriptions over the course of a career. Collectively, this will certainly lead to a not-inconsequential number of avoidable adverse outcomes and unnecessary patient expense.

Adopting this philosophy into practice is not only good for our patients, but it's also good for us as UC clinicians as well. Apart from limiting possible anxiety about harming our patients or facing any legal repercussions if they experience a bad outcome, when we invest in improving our fluency with UC relevant guidelines, this contradicts any narrative we may be carrying about the stakes in UC being too low to matter. Furthermore, there's certainly more job satisfaction to be found when we convince ourselves that the care we deliver in UC actually is important and valuable—which I firmly believe is the case.

Amazing Performance

This shift then begets a virtuous cycle: If we believe the quality of our care matters, we're more satisfied with our job. This puts us in a better mood at work, which in turn will be undoubtedly detected by our patients and staff, who will then be more at ease and more pleasant to care for and work with. We can notice a similar phenomenon if we catch a particularly engaging cover act. Doesn't everyone watching the band seem to enjoy themselves more when watching that kind of energetic performance? Sure, the group may be playing "Truckin'" for the 50th, 500th, or 5,000th time, but if they still are playing it like they care about the audience's experience, it makes for an unforgettable show—and this doesn't require an elite level of musical talent either. Rather, amazing performance simply requires knowing the songs that the audience expects to hear and playing them well and with enthusiasm.

If we look at UC through this same lens, what's required of us to achieve proficiency as UC clinicians hopefully now seems more manageable. As a substantial bonus, discovering new-found joy in work will likely arise incidentally as well. Organizational psychology research on this topic has confirmed a clear association between a worker's level of competence and their job satisfaction.[8] So, if you're feeling burned out or ineffectual, it might be worth asking yourself where you can refine your proficiency within the core UC "set list." Committing to simply improving your performance of this limited catalog is likely to yield an increased sense of effectiveness and enjoyment for work. And you likely won't want to stop there because, just like the journey of improvement for musicians, there is infinite room for growth as a clinician—especially if we start by rethinking our definition of "success." ■

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URGENT INTERACTIONS

"Right now, the big reason to test for multiple respiratory conditions is because many of the conditions look very similar in how they present and can have overlapping symptoms. The symptom history may not provide enough information to get to the right diagnosis."

— Michelle Prickett, MD, Pulmonologist
Northwestern Memorial Hospital, Northwestern Medical Group

"We're used to making things happen fast, day in and day out, but I've learned with advocacy, it's the long game. Positive change is happening. We've met with CMS and CMMI as we pursue higher reimbursement for urgent care, and we're in a strategic position for greater headway in 2024."

— Selena Gurley, MSN, FNP-C, CRHCP
Chair, Urgent Care Association Advocacy Committee
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What's In It For Me?

Lou Ellen Horwitz, MA

Do you remember what it was like in the summer of 2020? If that summer had a theme, it would have been "overlooked." Everyone was jumping up and down and waving their arms to get the attention of suppliers, government agencies, payers, diagnostic companies, and pharmaceutical companies so we could meet the needs of the patients literally lining up in front of our centers. We had to fight for every single thing we got, and were last in line every time, if we were included at all.

That was a huge wake-up call for us as an industry—but I am afraid that we have ultimately ignored that call and will live to regret it.

In the July 2020 issue of *JUCM,* I wrote about the need for a change in Urgent Care:

"I don't want to change our DNA – but we have to change something ***if we want to have a national impact****. We may not like it, but we do need each other. It's not enough to just be good at what we do. It's not enough for us to unite four days a year at Convention and compete the other 361. It's not enough.*

"We all want this alliance. We see every day how critical Urgent Care is in our communities. We can be an 'alliance of mavericks' if we must, but we have to come together, and in greater numbers."

Guess how much we've come together since then? Not much.

I measure this the only way that we can: by how many centers are part of the Urgent Care Association (UCA). The whole reason that UCA exists—the whole reason that any association exists—is to bring people together in a group to do things that they cannot do separately.

Guess who else measures us this way? Federal stakeholders. One of the first questions we get is, "how many members do you have?" Federal stakeholders want to know how big of a player UCA is, and size of membership is how they measure. It's great to be able to say that there are 14,599 Urgent Care centers in the country, but if UCA can only claim to represent 38% of them, it diminishes our credibility (even though no one else represents the other 62%).

I share these numbers so you will understand what having a national impact requires from you. If you aren't a member, your choice to sit on the sidelines of what we all want to accomplish is impacting our ability to advocate on your behalf. Your choice to only let others pay membership dues has a negative impact on you because your absence impacts UCA's national credibility.

So yes, this is a plea for all of our non-members to join UCA. You don't have to buy anything, go to a single webinar, access a single free resource, or come to the convention—though I hope you will. If you do nothing else besides maintain an ongoing membership for your center, you are performing a critical duty to empower change on a national scale that will ultimately benefit your business and your clinicians and your employees and your community.

If we fail as an industry, it will be because we failed to come together and use our collective power. Our members know this, and it's why they belong to UCA and will continue to be part of our progress.

Poet John Donne said it best:

No man is an island,
Entire of itself.
Each is a piece of the continent,
A part of the main.
If a clod be washed away by the sea,
Europe is the less.
As well as if a promontory were.
As well as if a manor of thine own
Or of thine friend's were.
Each man's death diminishes me,
For I am involved in mankind.

What's in it for you to be a member? Ensuring the long-term success of our industry. UCA is going to do the advocacy work no matter what, but our odds improve with every additional voice. Let's make sure Urgent Care is never overlooked again. ■

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

Updates on Sports Related Concussion from the 6th International Conference on Concussion in Sport

Ivan Koay MBChB, MRCS, FRNZCUC, MD

Over the last 20 years, the Concussion in Sport Group has met periodically to develop statements guiding the assessment and management of sports-related concussions. The most recent meeting of the group took place in Amsterdam, Netherlands, in October 2022 and produced updated and freely available, evidence-informed tools to assist in the detection and assessment of sports-related concussion (SRC). These tools include: the Concussion Recognition Tool-6 (CRT6); Sport Concussion Assessment Tool-6 (SCAT6); Child SCAT6; Sport Concussion Office Assessment Tool-6 (SCOAT6); and Child SCOAT6.

The latest statement can prove clinically useful for many urgent care (UC) patients and practitioners as it specifically provides up-to-date guidance for athletes who have sustained a suspected SRC at any level of sport (ie, recreational to professional).[1] The expert panelists represented a broad array of experience and professional disciplines from Australia, Canada, Finland, Japan, South Africa, United States, United Kingdom, Switzerland, and the Czech Republic.

The group developed the "11 R's" mnemonic to describe the steps in management of SRC: Recognize; Reduce; Remove; Refer; Re-evaulate; Rest; Rehabilitate; Recover; Return-to-Learn; Return-to-Sport; Reconsider; and Residual effects. This paradigm describes the flow of recommendations for moving athletes from concussion through recovery and return to sport and normal daily life.

The development of the new SCOAT6 and Child SCOAT6 for adult and pediatric patients also provides a standardized and expanded age-appropriate instrument to facilitate and organize the complex and multidomain evaluation of concussion symptomatology in the subacute phase (ie, from 72 hours to a few weeks postinjury). The aim of these tools is to move toward more individualized patient treatment plans based not only on the initial injury but also their recovery trajectory—a major shift in guidelines-based concussion care.

The authors do note that the SCOAT tools are not meant to replace clinical judgment but rather to provide a standardized, yet adaptable, framework to help inform and personalize the concussion treatment for athletes. The most relevant highlights from this updated statement for UC clinicians follow.

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Urgent Care Assessment

The group suggests that relevant data to collect would include the athlete's history of prior concussions, how prior concussions were managed, and approximate time to recovery from prior traumatic brain injuries (TBIs). They emphasize the importance of reviewing the patient's past medical history with special attention on any neuropsychological diagnoses that may affect the immediate presentation and/or recovery. Conditions warranting such attention include (but certainly are not limited to) migraine and other headache disorders, anxiety, depression, sleep disorders, and attention-deficit hyperactivity disorder.

Simple neurocognitive exams which the group recommends in the initial evaluation phase include:

- **Word recall and digit backwards tests**: The 10-word immediate recall and digit string backwards tests are recommended. If the athlete finds the word recall task too easy (eg, exhibits a ceiling effect), a 15-word list may be used.
- **Vital sign assessment:** Clinicians are advised to

measure supine and standing blood pressures and heart rate, spaced 2 minutes apart.

- **Cervical spine assessment:** Clinicians are recommended to evaluate not only for cervical spine injury but also for range of motion and muscle spasm.
- **Neurologic exam:** Clinicians are encouraged to document a thorough neurologic exam to establish a baseline and exclude focal deficits that may require more extensive work-up (ie, emergent brain imaging). The neurological assessment evaluates cranial nerves, motor function, sensation, coordination and balance, and deep tendon reflexes.
- **Complex task assessment:** The group suggests evaluation of timed tandem gait as a single task and then more complex dual-task assessment through the addition of a simultaneous cognitive task (eg, months backwards or word recall backwards), which can offer clues to more subtle deficits.
- **Modified vestibular-ocular motor screen (VOMS**): VOMS assessment is a complex series of eye movements and head tracking activities that assess for how symptoms of concussion may be provoked. Given the complexity of this assessment, clinicians would be prudent to use an online training video or checklist to ensure all elements are evaluated.
- **Delayed word recall**: In addition to immediate recall, as discussed above, testing working memory can be achieved with a delayed recall assessment 5 minutes or more after the initial word recall task.

This is obviously a robust, and likely more comprehensive, assessment than many UC clinicians perform on patients with concussion. However, given that the "deficits" of many concussions in athletes have a propensity for subtlety, the addition of these expanded assessments offer greater sensitivity for detecting consequences of TBI. Additionally, performing these tests on the initial assessment can offer for a critical baseline which will then serve as a benchmark for subsequent progress in recovery.

Rest and Recovery

The Concussion in Sport Group concluded that best-evidence at this time does not support strict physical rest until the complete resolution of concussion-related symptoms as has previously been common practice. Instead, the group advocates for "relative rest," which seems to be more beneficial for facilitating recovery. Relative rest allows for continuing many activities of daily living while reducing screen time.

Relative rest is indicated immediately after injury and for up to the first 2 days after. Individuals are advised in the most recent guidelines to return to light-intensity physical activity, such as walking, that does not more than mildly exacerbate symptoms, during the initial 24–48 hours following a concussion.

The best evidence regarding cognitive rest suggests that reduced screen time in the first 48 hours after injury is warranted but may not affect recovery beyond this timepoint. The group acknowledges that this area still requires further investigation to determine the best course of action.

Referrals

The SRC group recommends that referrals to specialists in concussion management should be considered for patients in whom concussion symptoms persist beyond 1 month. Possible persistent symptoms are myriad, and the continuing experience of any warrant referral. Examples of common persistent symptoms include: cervicogenic symptoms; headache; cognitive and psychological difficulties; balance disturbances; vestibular signs; and oculomotor manifestations.

Return to Learning and Sports

Prior studies have found that immediate return to normal competition and/or cognitive tasks following SRC resulted in longer recovery times. The consensus panel now suggests a stepwise progression of increasing cognitive loads for return to learning (RTL) following a 24–48-hour period of rest, providing that doing so does not lead to further exacerbations of symptoms.

Return to sports (RTS) strategies mirror the RTL strategy. Return to gentle activities should proceed in a stepwise fashion though 6 phases. The athlete may advance to each subsequent step based on self-monitoring of symptoms in conjunction with clinician guidance as cognitive function, and neurological symptoms and signs are monitored. Practitioner clinical judgment ultimately is most important, and clinicians should feel comfortable with allowing the athlete to continue the progressive RTS steps if improving and, likewise, pausing athletes who fail to improve as expected.

Differentiating early activity (step 1), aerobic exercise (step 2), and individual sport-specific exercise (step 3) as part of the treatment of SRC can be useful for the athlete and their support network. Step 4 consists of non-contact drills, followed by full-contact practice (step 5) and subsequent return to competitive sport (step 6). ■

Reference

1. Patricios JS, Schneider KJ, Dvorak J et al. Br J Sports Med 2023;57:695–711. doi:10.1136/bjsports-2023-106898

CONTINUING MEDICAL EDUCATION

Release Date: February 1, 2024
Expiration Date: January 31, 2025

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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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Case Report of Renal Cell Carcinoma Presenting to Urgent Care with Indolent Back Pain: A Wolf in Sheep's Clothing (page 17)

1. Which of the following describes indications for imaging in patients with nonspecific low back pain?
a. Providers should not routinely obtain imaging
b. All patients should receive imaging regardless of the presentation
c. With concern for cauda equina syndrome, a negative plain film x-ray excludes a spinal epidural abscess
d. In patients with a history of unintentional weight loss, a negative x-ray 100% excludes a malignancy

2. What approximate percentage of patients with low back pain will have a malignancy?
a. <1%
b. 10%
c. 15%
d. 20%

3. Which of the following are true regarding pain management of patients with a low back strain?
a. Neither the addition of opioids nor corticosteroids improves short and medium term outcomes beyond what is observed with use of NSAIDs
b. Opioid medication should be prescribed for all patients
c. Corticosteroids improve short-term pain better than NSAIDs without additional side effects
d. Prescribing benzodiazepine and opioid medication is safe and effective

Which IV Infusion Services are Most Appropriate for Urgent Care? (page 29)

1. Of these, which IV service line might be offered in the urgent care setting?
a. Treatment for dehydration related to heat exposure
b. Treatment for dehydration related to hangover
c. Treatment for chronic conditions
d. All of the above

2. Of these, the most controversial type of infusion appearing in urgent care is:
a. Ketamine
b. Skyrizi
c. Vyepti
d. Electrolytes

3. The term "IV Push" refers to the administration of which types of drugs?
a. Therapeutic
b. Prophylactic
c. Diagnostic
d. Any of the above

Incomplete Kawasaki Disease Clinically Diagnosed From Urgent Care: A Case-Report-Based Review (page 34)

1. Which of the following categorizes Kawasaki disease?
a. An infectious disease
b. A panvasculitis
c. An acute injury
d. A congenital defect

2. Which of the following may lead to coronary artery aneurysms in childhood?
a. Gastroesophageal reflux disease
b. Kawasaki disease
c. Pneumonia
d. Otitis Media

3. Which are considered major clinical findings which are used as diagnostic criteria for Kawasaki disease?
a. Edema of hands and feet
b. Bilateral non-exudative conjunctival injection
c. Unilateral cervical lymphadenopathy
d. All of the above

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Case Report

CME: This article is offered for AMA PRA Category 1 Credit.™
See CME post-test questions on page 15.

Case Report of Renal Cell Carcinoma Presenting to Urgent Care with Indolent Back Pain: A Wolf in Sheep's Clothing

Urgent Message: Although back pain is often due to benign etiologies, symptoms of progressive pain, weakness, and near syncope in one patient ultimately led to a diagnosis of renal cell carcinoma.

Anahit Hamazaspyan, DO; Ayush Kedia, DO; Michael Weinstock, MD

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Abstract

Introduction: Back pain is a common complaint in the urgent care and is most commonly due to benign etiologies. This case report details a patient with back pain and multiple primary care provider (PCP) visits who ultimately was diagnosed with renal cell carcinoma (RCC) after being seen in urgent care (UC) and referred to an emergency department (ED).

Clinical presentation: A 41-year-old man with a history of hypertension presented multiple times to his PCP and the ED with low back pain (LBP). He denied any saddle anesthesia or urinary retention or incontinence. His physical exam revealed normal spinal range of motion, lower extremity strength, sensation, and deep tendon reflexes (DTR). Distal pulses were strong and symmetric. The patient did have tenderness in the paraspinal musculature on the left side down to the level of the left iliac crest.

Case resolution: The patient presented to an urgent care

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for his 5th episode of seeking care when the low back pain had progressed with bilateral back and lower extremity pain, weakness, and near syncope. He denied fevers, urinary incontinence or retention, and dysuria. With his symptoms progressing and the recent history of multiple PCP visits, the UC clinician determined that the patient should be referred to an ED for further evaluation.

Conclusion: In the ED, additional history revealed 25 pounds of unintentional weight loss. A computed tomography (CT) scan of the abdomen and pelvis was obtained which demonstrated findings consistent with metastatic cancer. Subsequent evaluation revealed the primary cancer to be renal cell carcinoma. Unfortunately, the patient died of complications of this diagnosis soon thereafter.

"Approximately 23% of the world's adult population suffers from chronic LBP, which explains why it is such a common presenting complaint in a variety of medical settings such as primary care, UC, and the ED."

Introduction

Back pain is a nearly universal human experience with a 50-80% lifetime prevalence in adults.[1] The differential diagnosis of low back pain is broad, but can be divided functionally into 2 categories: mechanical (eg, strain, spasm, fracture, degenerative disc disease, etc.) and non-mechanical etiologies (eg, epidural abscess, psoas abscess, primary or metastatic malignancy, abdominal aortic aneurysm, etc.).[2] Approximately 23% of the world's adult population suffers from chronic LBP, which explains why it is such a common presenting complaint in a variety of medical settings such as primary care, UC, and the ED.[3] The following case serves to illustrate that renal cell cancer may present in an innocuous fashion simply as painless hematuria, back pain, or weight loss.

Clinical Case

Excerpts in quotations are from actual documentation, and identifying details have been omitted to protect patient privacy. Less relevant elements are redacted for brevity.

Primary Care Office: Day 1

- **History of Present Illness (HPI):** "The patient is a 41-year-old male with a past medical history of hypertension, hyperlipidemia, and tobacco use disorder who initially presents with a 3-week history of LBP. States that he injured his back while on vacation, and the pain is now interfering with his daily activities. Patient denies any urinary/stool incontinence or saddle paresthesia."
- **Physical Exam:** "Lumbar paraspinal muscle spasm and tenderness."
- **Lumbar Spine X-ray:** "No acute fracture or subluxation." "A [corticosteroid] injection was administered during the office visit and the patient was prescribed a [corticosteroid] oral taper, cyclobenzaprine, and hydrocodone/acetaminophen."
- **Diagnosis:** "Lumbosacral strain"

Emergency Department: Day 14

- **HPI:** "The patient presents to the ED for left sided lumbar back pain…He denies any radiation of the pain, numbness, tingling, weakness, bowel, or urinary incontinence."
- **Physical Exam:** "Full range of motion of the lower extremities and the lumbar spine, intact plantar flexion, and dorsiflexion of the feet bilaterally against resistance, no sign of foot drop, intact distal neurovascular response, and 2+ DTRs in the patellar reflexes bilaterally. There is tenderness in the paraspinal musculature on the left side down to the level of the left iliac crest."
- **Diagnosis:** The ED clinician determined that there was no indication for imaging at this time and assigned a diagnosis of "musculoskeletal back pain."
- **Treatment:** The patient was treated symptomatically again, receiving intramuscular (IM) ketorolac and a skeletal muscle relaxant. He was discharged with instructions to "continue NSAIDs [non-steroidal anti-inflammatory drugs] and muscle relaxants and to follow up with his PCP."

Primary Care Office: Day 21

- **HPI:** "Reports no new symptoms aside from his persistent back pain."
- **Physical Exam:** His physical exam showed persistent paraspinal tenderness, and his neurologic exam of the lower extremities was normal.
- **Treatment:** He was given another ketorolac injection and his hydrocodone/acetaminophen prescription was refilled.

Primary Care Office: Day 26

- **HPI**: The patient was seen by his PCP's colleague for

an urgent follow-up visit due to his progressive symptoms. "Now complains of left upper and lower quadrant abdominal pain associated with constipation, fevers, and chills. He denies any urinary symptoms."
- **Physical Exam:** "Abdomen is soft, nondistended… positive tenderness in the left lower quadrant area. Back without CVAT [costovertebral angle tenderness]."
- **Diagnosis:** At this visit, the patient was diagnosed with "mild diverticulitis" due to a "history of diverticulosis" and was prescribed oral antibiotics.

Urgent Care: Day 30

- **HPI:** The patient presents to UC for bilateral back and lower extremity pain, weakness, and near syncope. "He denies any fevers, chills, urinary incontinence or retention, dysuria, or frequency."
- **Physical Exam:** Alert and oriented. Lungs clear to auscultation bilaterally. Heart: regular rate and rhythm without murmurs, rubs, gallop. Abdomen: soft and nontender, without rigidity, rebound, guarding. Back: normal appearance, no tender to palpation, no costovertebral angle tenderness. Nontender midline spine.
- **Medical Decision Making:** "Concern for multiple visits and associated near syncope without confidence that this is musculoskeletal." At this time and with the recent history of the patient's multiple visits to his PCP, the provider determines that the patient needs to be transferred to the ED for further evaluation and management.

"While a presumptive initial diagnosis of mechanical LBP or lumbar strain is often appropriate at an initial visit, an expanded differential is prudent in cases with severe and progressive LBP."

Diagnosis and Discussion

Among the most pressing questions on patients' and clinicians' minds when evaluating patients with acute or subacute low back pain surrounds imaging. As most causes of acute LBP are mechanical and self-limited, consensus statements and guidelines generally recommend against imaging in the absence of "red flags" in the history and physical (eg, American College of Radiology appropriateness criteria).[4]

Among the red flag risk factors that are important to screen for in patients' histories are a personal or family history of certain cancers (eg, breast, prostate, lung, kidney, or multiple myeloma), factors associated with an increased risk of spinal infection (eg, history of injection drug use, spinal instrumentation, or immunosuppression), prolonged glucocorticoid steroid use, significant trauma, osteoporosis, or advanced age (concern for vertebral compression fracture). It is similarly important to recognize red flag symptoms as well, such as new-onset urinary retention, fecal incontinence, saddle anesthesia, or objective neurologic deficits of the lower extremities that may suggest cauda equina syndrome (CES).[5] While a presumptive initial diagnosis of mechanical LBP or lumbar strain is often appropriate at an initial visit, an expanded differential is prudent in cases with severe and progressive LBP, as was the case with this patient.

Lumbar X-Ray in Nontraumatic LBP

A lumbar x-ray (XR) was ordered at the initial PCP visit, however, plain films are specifically *not* recommended in non-traumatic acute LBP. The American College of Physicians (ACP) and the American Pain Society have jointly published guidelines with a "strong" recommendation for appropriate imaging in patients with acute LBP. This recommendation specifically states:[6,7]

1. In patients with non-specific low back pain, providers should not routinely obtain imaging.
2. Diagnostic imaging should be obtained in patients with progressively worsening or severe neurologic symptoms, or when, based on history and physical, a serious condition is suspected.
3. In patients whose treatment outcome will change and who are candidates for epidural steroid injections and surgery, diagnostic imaging should be performed either with magnetic resonance imaging (MRI) (preferred) or CT.

The term "diagnostic imaging" encompasses multiple modalities, most notably XR, CT, and MRI. However, when selecting the imaging test of choice, it is critical that the appropriateness of the modality in narrowing the differential diagnoses of concern should trump convenience and availability of the imaging study. While XR is generally more widely available in UC settings, it lacks sufficient sensitivity to exclude many time-sensitive etiologies of LBP.[4]

Prevalence Of Cancer And Other Serious Causes Of LBP In Primary Care

To date, there have not been studies describing the

prevalence of various etiologies of LBP in the UC setting. However, a prior study in the primary care setting showed the prevalence of low back pain due to cancer was only 0.7%. Other important causes of LBP were also rare in this population with compression fractures occurring in 4% and spinal infections in only 0.01%.[8] Prevalence of these serious causes of back pain was unsurprisingly higher when ED populations were studied with the rate of cancer related LBP as high as 2.1%.[9] In the case presented, it would have been relevant to have inquired about unexplained weight loss and failure for pain to improve after 1 month, as this may have provided clues to the possibility of a more serious cause of the patient's back pain.[10]

Initial Management of Non-Specific Acute Low Back Pain

In the case presented, the patient was prescribed both oral corticosteroids and opioids at the initial PCP visit. Multiple randomized controlled trials of ED patients from the last decade have shown that neither the addition of opioids nor corticosteroids improves short and medium term outcomes for patients with non-specific low back pain beyond what is observed with the use of acetaminophen and NSAIDs.[11,12] However, an article published in 2021 did highlight the added efficacy and safety of patient participation in active interventions such as multidisciplinary rehabilitation, pilates, and yoga. Prescribing such interventions for patients with acute low back pain was also shown to be cost effective.[13] In the case presented, evidence does not support the initial management and treatment recommendations. In such situations, this unfortunately common pattern of prescribing may complicate care and/or delay definitive diagnosis.

Clinical Case Conclusion

ED Visit: Day 31

The patient presented to the ED for ongoing back pain. He was afebrile, and vital signs were otherwise normal.

- **HPI**: "Patient presents with complaint of an aching sensation in both of his legs. He does not have any current gluteal or lower extremity paresthesias and no urinary incontinence or retention. He has had back pain for the last 3 weeks and has had medications from his primary care physician. Initially had some numbness, but that is now resolved. He has never used intravenous drugs. No complaint of fever. He does have a history of diverticulitis or diverticulosis, he is not sure which. Also, he denies any dysuria or urinary frequency, blood in the urine. Yesterday he felt generalized weakness and like his blood pressure was low. When he stood up, he fell down onto the right gluteal area but there were no other injuries. No complaint of vomiting and diarrhea. No blood in the stool. Social history: Smoker, has not drank alcohol for 1 month, no history of intravenous drugs. Pain Scale: 10."

"The classic triad of RCC presentation involves hematuria, flank pain, and a palpable abdominal mass, but this triad is only present in 9% of cases."

- **Physical Exam:** "Back: Normal appearance, does have pain with palpation musculature right low back and upper gluteal area but no midline pain with palpation. Straight leg raise test is negative to 45 degrees ×2. Strength 5/5 flexion extension bilateral lower extremities, patellar DTRs 2+ and equal ×2. Neurovascular status intact. No evidence of urinary incontinence" The ED clinician ordered bloodwork, and his complete blood count (CBC) revealed normocytic anemia and thrombocytosis. Of note, normocytic or microcytic anemia precedes the diagnosis of renal cell carcinoma in 29-88% of patients with advanced disease.[14] The patient's complete metabolic panel (CMP) showed hyponatremia and elevated alkaline phosphatase (AP). Urinalysis (UA) was orange and turbid, and the urine dip was positive for protein, large blood, and trace leukocyte esterase (LE).
- **Treatment:** The patient underwent a CT scan of the abdomen and pelvis without contrast with a primary consideration for renal colic as a diagnosis. However, the CT instead demonstrated a 6 cm solid mass on the superior pole of the left kidney, consistent with primary RCC. Incidentally, multiple lung nodules were noted on the visualized portions of the lungs, which were suggestive of pulmonary metastases. Multiple low-attenuation liver lesions, diffuse abdominal adenopathy, and lytic lesions of the pelvis and spine were also seen, which represented additional sites of metastases. The patient was subsequently admitted to the hospital, and urology and oncology services were consulted. However, the patient declined rapidly and died of hypoxic respiratory failure secondary to the significant pulmonary metastasis while receiving hospice care.

Discussion of Metastatic Renal Cell Carcinoma

Epidemiology

There are approximately 80,000 new cases of RCC diag-

nosed in the US annually. RCC occurs twice as often in males and has an overall 18% mortality rate. The average age of diagnosis is between 65-74 years of age, though rarely seen in patients younger than 45.[15] The risk factors with the clearest association for RCC include smoking, obesity, chronic kidney disease, hypertension, family history.[15] Additionally, exposure to chemicals such as trichloroethylene and certain medications (eg, NSAIDs) may play a role in certain cases.[16]

Genetic and Hereditary Risk Factors

RCC risk is influenced significantly by genetics as well as family or personal history of other kidney disease or RCC itself. Having a first-degree relative with a history of RCC is present in 2-4% of RCC cases. Additionally, genetic syndromes like von Hippel-Lindau syndrome, hereditary leiomyomatosis and renal cell cancer syndrome, Birt-Hogg-Dubé syndrome, polycystic kidney disease, and hereditary papillary renal cell carcinoma syndrome predispose patients to the disease.[17]

Clinical Manifestations

The classic triad of RCC presentation involves hematuria, flank pain, and a palpable abdominal mass, but this triad is only present in 9% of cases. Additionally, the presence of this triad suggests advanced disease.[18] Other clinical manifestations may include hypertension, fevers, unexplained weight loss, or night sweats, but these symptoms vary with the stage, location, and size of tumor.[19]

Additionally, less common findings can offer clues to the diagnosis of RCC if detected. For example, scrotal varicoceles can occur in up to 11% of males with RCC due to the obstruction of the gonadal vein at the intersection with the renal vein. If the inferior vena cava is involved, it can lead to lower extremity swelling and pulmonary emboli.[20] Paraneoplastic symptoms, due to ectopic production of hormones such as erythropoietin (EPO), parathyroid related peptide (PTHrP), gonadotropins, renin, can also occur.[21] Anemia, when present, can be severe and will most often present as anemia of chronic disease.[21] However, erythrocytosis can also be observed due to inappropriate EPO secretion which occurs in 1-5% of patients with advanced cancer.[14] Hypercalcemia can result from a variety of mechanisms including lytic bone metastases, production of PTHrP, and increased synthesis of prostaglandins.

RCC will frequently have no symptoms in the early stages of the disease. In fact, RCC is often incidentally discovered during imaging studies done for other reasons. Incidental RCC discovery has increased over recent years due to the increased utilization of advanced imaging overall.[22]

Evaluation

RCC may be considered in the differential of patients presenting with hematuria. In such cases, it is important to collect pertinent medical, social, and family history, including risk factors for RCC, such as smoking, chronic kidney disease, family history of kidney cancer, and previous exposure to radiation or industrial chemicals. The extent of hematuria and presence of back or flank pain, unintentional weight loss, and other constitutional symptoms can also be documented. Pertinent physical exam maneuvers include palpation of the abdomen and flanks for masses. An abdominal mass is an uncommon finding.[23]

Common laboratory studies include screening CBC, CMP, and UA. Imaging studies which can be considered include CT, MRI, or ultrasound.

"RCC is often incidentally discovered during imaging studies done for other reasons."

Pathophysiology

RCC is characterized by dysplasia that originates in the lining of tubules within the kidney. These abnormal cells will form solid tumors that grow, invade nearby tissues and organs, and eventually metastasize. Under a microscope, RCC is characterized by the presence of clear, pale cells (clear cell RCC), which account for about 75-85% of all cases. Other less common subtypes of RCC include papillary (10-15%), chromophobe (5-10%), oncocytic (3-7%), and collecting duct (very rare).[24] Each subtype has distinct cellular and genetic features that can affect the prognosis and treatment of the disease. In addition to the tumor cells, the pathology of RCC may also involve changes in the surrounding kidney tissue, such as inflammation, fibrosis, and blood vessel abnormalities. These changes can contribute to the progression and spread of the tumor and may also affect the function of the kidney.

Treatment

The treatment of RCC depends on the cancer's stage, location and size of the tumor, and the overall health and functional status of the patient. The main treatment considerations include surgery, radiation, and cytotoxic chemotherapy and/or immunotherapeutic agents. Sur-

gery can be curative at an early stage, and a partial or radical nephrectomy is the first line treatment for RCC in early stages of disease.[25] It is preferred in patients with Stage I-III. Radiation can be used adjunctively to treat symptomatic patients or in Stage IV RCC. Targeted therapy can also be used in combination with immunotherapy or molecular therapy.

Screening

Screening for RCC is generally not recommended as it has not been shown to be effective in reducing mortality except in patients with risk factors such as a strong family history or high-risk genetic syndrome.[24] It is important to note, though, that these screening tests can yield false-positive results, leading to unnecessary diagnostic procedures and patient anxiety. A detailed and informative discussion about risks and benefits should occur in patients deemed at an increased risk.[25]

Summary

- When patients present repeatedly for the same undifferentiated complaint, an expanded differential is critical. For back pain specifically, an expanded differential should include malignancy as well as other time sensitive diagnoses (eg, epidural compression syndrome, pancreatitis, or aortic pathology).
- Renal cell cancer may present with painless hematuria, back pain, unexplained anemia, and weight loss.
- Screening for RCC has not been shown to be effective in the general population, however, it is important to consider the presence of risk factors such as family history, smoking history, male gender, and occupational exposures when determining which patients may warrant additional evaluation.
- As is the case with most cancers, morbidity and mortality are reduced with earlier diagnosis, therefore, UC patients will be best served if UC clinicians keep RCC in their differential for patients with hematuria and/or back pain.

Ethics Statement

Informed consent was not obtained as patient had died in the interval time period. Identifying details have been modified to protect the patient's privacy.

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1. Abbott. Data on file. ID NOW™ Influenza A & B 2 clinical trial data.

2.Abbott. Data on file. ID NOW™ Strep A 2 clinical trial data.

Predicting Which Patients Need an X-Ray Before Attempting Shoulder Reduction

Take Home Point: In this study, the Fresno-Québec Rule showed excellent sensitivity in identifying concomitant clinically significant fractures in patients with anterior shoulder dislocations.

Citation: Benhamed A, Bonnet M, Miossec A, et. al. Performance of the Fresno-Quebec Rule in identifying patients with concomitant fractures not requiring a radiograph before shoulder dislocation reduction: a multicenter retrospective cohort study. *Eur J Emerg Med*. 2023 Dec 1;30(6):438-444. doi: 10.1097/MEJ.0000000000001067

Relevance: Up to 20% of anterior shoulder dislocations have a concomitant fracture, however, most of these are not clinically significant and do not affect initial management. Having a tool that allows clinicians to identify patients who do not require initial radiography can reduce unnecessary imaging and increase throughput in urgent care (UC) centers.

Study Summary: This was a multicenter, retrospective cohort study of data obtained from 3 tertiary emergency departments (EDs) in France. The Fresno-Québec rule consists of a three-step algorithm whereby patients are included if they meet the following criteria: atraumatic recurrent episode or age <35 years and no dangerous mechanism (road collision, assault, sport, fall from a height greater than 10 feet). The primary endpoint was a clinically significant fracture on the prereduction radiograph. Clinically relevant fractures were those defined as any type resulting in a change in patient management.

The authors included 2,129 patients for final analysis. 90.3% of patients had dislocations without a fracture. The application of the Fresno-Québec rule would have allowed for 678 (35.2%) pre-reduction radiographs to be omitted. The patients who had dislocations with concomitant fractures were generally older, male, and had history of trauma. The most common types of fracture were those of the greater tuberosity (71.0%) and of the glenoid fossa (15.5%). Successful reduction was noted on the first attempt in 83.3% of cases in the "dislocation without fracture" group and 65.3% in the "dislocation with fracture" group. The sensitivity of the Fresno-Québec was 96%, however the specificity was only 36%. Shoulder injury caused by an electric shock or seizure had the highest odds of associated fracture, followed by a motor vehicle collision (MVC) mechanism.

Editor's Comments: This was a retrospective study of ED patients and may not be generalizable to the UC population. It is worth noting that fractures were more common after MVC and seizure/shock mechanisms. Many UC centers currently are struggling to offer x-ray due to technician staffing shortages. ■

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Training for Quality and Safety Has Evolved

Take Home Point: In training new clinicians, quality and safety education is valuable and trainees benefit when time is allocated to engage in quality project work.

Citation: Brown R, Kurland L, Rial CL, et. al. How should we train emergency physicians for quality and safety activities? *Eur J Emerg Med*. 2023 Dec 1;30(6):391-392. doi: 10.1097/MEJ.0000000000001081.

Relevance: UC education and training is evolving. Implementation of a robust curriculum that includes quality and safety is important for ensuring that graduates have a skill set requisite to engage in quality work throughout their careers.

Study Summary: This was a viewpoint article looking at the implementation of the new European Training Requirement (ETR) for ED physicians in Europe. The characteristic work of ED physicians, like clinicians in UC, includes evaluation of undifferentiated patients, time-critical decision making, clinical reasoning, and team work within complex healthcare systems. An understanding of how to evaluate and improve quality and safety within this context is critical for ensuring optimal patient outcomes.

The new curriculum overhaul incorporates the "CanMEDS" framework for improving patient care by enhancing physician training, which was developed by the Royal College of Physicians and Surgeons in Canada in the 1990s. It recommends focusing on learning through deliberate practice and close clinical supervision with structured feedback. Practical topics suggested include quality improvement methodology, governance activities, risk management, and the development and implementation of guidelines and operating procedures. Leadership/teamwork, human factors, and creating a culture of safety are cross-cutting themes that embrace both clinical work and the supporting professional activities.

Editor's Comments: While this editorial was directed at improvement in ED clinician training, many of the themes are similarly relevant for UC clinician training program development, which remains still ill-defined in many countries. ■

How Risky is an Incidental Brugada Pattern on ECG in Asymptomatic Patients?

Take Home Point: Asymptomatic patients, especially those with drug-induced–only, Brugada ECG (BrECG) patterns have a very low risk of short-term malignant dysrhythmia, however, the risk is not sufficiently low so as to alter recommendations that they undergo outpatient cardiac monitoring and cardiology follow-up.

Citation: Gaita F, Cerrato N, Guistetto C, et. al. Asymptomatic Patients with Brugada ECG Pattern: Long-Term Prognosis From a Large Prospective Study. *Circulation*. 2023; 148:1543–1555.

Relevance: Brugada patterns on ECG are not uncommonly encountered incidentally on patients who have an ECG for unrelated reasons (ie, not palpitations or syncope). Risk stratification and disposition of the asymptomatic patients with BrECG are major challenges with no consensus as to their management.

Study Summary: This was a retrospective review of registry data from 2 Italian regions over an 18-year period. Patients diagnosed were initially given comprehensive instructions, including avoidance of certain medications, large meals, and excessive alcohol intake, as well as prompt treatment of fever. Patients with drug-induced type-1 BrECG pattern were followed up closely with annual Holter checks. Patients with spontaneous type-1 BrECG had baseline Holter monitoring and electrophysiological studies (EPS) done. Those with positive EPS studies had implantable cardioverter defibrillator installed.

The authors found 17 arrhythmic events occurred in the 1,149 asymptomatic patients with BrECG pattern over the follow-up period. The arrhythmic rate of events was 0.4% per year among patients with spontaneous type 1 and 0.03% per year among patients with drug-induced–only type-1 BrECG ($P<0.0001$).

"Urgent follow-up with a cardiologist remains important for patients with incidental findings of even the lower-risk Brugada patterns on ECG."

Editor's Comments: There was a low incidence of drug-induced BrECG in the study which results in a low power for detecting events. The study was conducted only in Italy and may have involved an excessively homogenous population to allow for safe generalizability.

While the incidence of Brugada syndrome is low, its consequences of possible sudden death in young patients suggests that clinicians would be prudent to exercise caution in interpreting these results. Given the apparently low, but non-insignificant increased risk of fatal dysrhythmia, semi-urgent follow-up with a cardiologist remains important for patients with incidental findings of even the lower-risk Brugada patterns on ECG. The paper references a helpful resource for guiding medication use in patients with Brugada Syndrome and can be found at: www.brugadadrugs.org. ■

How Closely Do Clinicians Adhere to Pediatric Pneumonia Guidelines?

Take Home Point: Over the roughly 10 years since updated guidelines on clinical practice for children with community-acquired pneumonia (CAP), adherence has improved grad-

ually with regards to the limited utility of blood cultures and the selection of an aminopenicillin type antibiotic. Adherence has worsened in particular with regards to excessive use of chest radiography.

Citation: Ambroggio L, Cotter J, Hall M, et. al. Management of Pediatric Pneumonia: A Decade After the Pediatric Infectious Diseases Society and Infectious Diseases Society of America Guideline. *Clin Infect Dis*. 2023 Nov 30;77(11):1604-1611. doi: 10.1093/cid/ciad385

Relevance: Pediatric specific guidelines for evaluation and management of suspected CAP have been well outlined and have not changed for over 10 years. During that time, COVID-19 drastically reshaped the assessment of respiratory infections. This study addresses where clinicians stand in terms of following the guidelines.

Study Summary: This was a retrospective review using ICD-9 and -10 data of children diagnosed with CAP whose treatment was monitored through the Pediatric Health Information System (PHIS) database and were initially seen in an Emergency Department (ED). The PHIS database contains administrative and billing data from 47 U.S. children's hospitals. The Pediatric Infectious Diseases Society and Infectious Diseases Society of America Guidelines guidelines strongly recommend narrow-spectrum antibiotic use for uncomplicated CAP as first-line therapy for children without penicillin allergy, specifically amoxicillin, and less overall diagnostic testing for children with CAP unless it will directly inform management. Billing data were used to assess rates of performance of diagnostic testing, including blood culture, complete blood count (CBC), chest radiograph (CXR), and acute phase reactants, including erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), and procalcitonin (PCT).

The authors analyzed 315,384 children's data, with 22.8% hospitalized, and 77.2% discharged from the ED. They found blood cultures were obtained in 44.6% of children, CBCs in 24.8%, acute phase reactants in 27.6%, and CXR in 83.1%. More than 91% of children hospitalized with CAP received antibiotics; 15.1% received an antibiotic other than those recommended by the guidelines, a macrolide, or a broad-spectrum cephalosporin. Over the study period, there was gradual and continuous improvement in adherence to antibiotic guidelines, but a decline in adherence to the use of CXR. Of children discharged from the ED with CAP, 27.4% of children received an antibiotic, and 7.4% received an antibiotic outside the recommendations. Some 9.8% revisited the ED within 14 days post-discharge.

Editor's Comments: This study focused on ED and hospitalized children and therefore spectrum bias likely exist compared to UC patients. As this review relied on billing data, the clinical context of treatment rationale was unavailable. The presence of institution-specific guidelines was also not accounted for by the authors. Despite these limitations, it is worthy to note that, in general "less is more" in children with CAP and this is supported by the PIDS/IDSA guidelines. Since not much work-up is recommended for most children with suspected pneumonia, most children with CAP who are not hypoxemic can be treated from UC and discharged for outpatient follow-up. ■

Social and Clinical Determinants of Sepsis Risk

Take Home Point: The risk of sepsis is increased among patients with lower socioeconomic status and intellectual disability. Chronic liver and kidney disease, cancer, neurologic disease, and immunosuppression are relevant underlying comorbidities that also increase the risk of sepsis.

Citation: Zhong X, et al. Clinical and health inequality risk factors for non-COVID-related sepsis during the global COVID-19 pandemic: a national case-control and cohort study. 2023. *eClinicalMedicine*. doi: https://doi.org/10.1016/j.eclinm.2023. 10232

Relevance: Sepsis is common, life-threatening condition precipitated by infection. Despite its high incidence, no large-scale reviews exist which examine the risk factors for developing sepsis.

Study Summary: The authors performed both a cohort study and a 1:6 matched case-control study using data available from the OpenSAFELY platform of the National Health Service (NHS) of England. Patients diagnosed with sepsis were identified using ICD-10 codes from hospital admissions records. Control patients were matched as patients without any recorded diagnosis of sepsis from the same database. Cases were matched to control for age, sex, and calendar month of admission. The primary outcome was a non-COVID-19 sepsis diagnosis during admission and secondary outcome was 30-day-mortality in patients with sepsis.

The authors analyzed 248,767 (11.3%) cases of non-COVID-19 sepsis from a cohort of 22 million individuals. 79.8% of cases were defined as community-acquired (ie, sepsis was diagnosed within 2 days of admission), and 20.2% was considered as hospital acquired. The research-

ers found the incidence of sepsis was greater in infants and then declined until age 17 years. In adults, the risk of sepsis steeply increased with increasing age. The presence of multiple clinical and social characteristics—including low socioeconomic status, being underweight or obese, smoking history, residing in a care facility, chronic kidney disease, organ transplantation, diabetes, malignancy, chronic liver disease, other neurological diseases, other immunosuppressive condition, and intellectual disabilities—increased the risk of developing sepsis. An additional finding was that patients with history of recent antibiotic use also seemed to have higher a risk of developing sepsis in the subjects of this study.

Editor's Comments: This was a retrospective study using billing data. Diagnosis accuracy relied on ICD-10 coding. However, despite the limitations, this large-scale study does highlight certain factors that UC clinicians should take integrate in their consideration of sepsis. Many of the risk factors revealed through the data confirm conventional teaching around sepsis risk factors (eg, presence of diabetes, cancer, liver disease), whereas others such as being underweight or economically disadvantaged have not been previously appreciated. ■

"The presence of multiple clinical and social characteristics increased the risk of developing sepsis."

COVID-19

Duration of Test Positivity to COVID-19 and Likelihood of Long COVID

Take Home Point: The likelihood of developing long COVID in infected individuals rises with the increasing of duration of positive viral testing.

Citation: Pozzi C, Sarti R, Levi R, et. al. Association Between Duration of SARS-CoV-2 Positivity and Long COVID. *Clin Infect Dis.* 2023 Nov 30;77(11):1531-1533. doi: 10.1093/cid/ciad434

Relevance: As we continue to see effects of the pandemic, understanding factors that contribute to long COVID—which can be significantly disruptive to affected patients' lives—it is important for UC clinicians to remain up-to-date with the literature on this new and poorly understood condition.

Study Summary: This was an observational study of healthcare workers who were infected with COVID-19 and subsequently developed long COVID in a facility in Italy. The observational period consisted of wave 1 (wild-type variant), wave 2 (Alpha variant), and wave 3 (Delta and Omicron variants). Self-reported COVID positivity duration was categorized into 4 groups: ≤10 days, 11–14 days, 15–21 days, and >21 days. All the analyzed individuals were vaccinated with 3 doses of BNT162b2 vaccine over the observed period.

The authors included 1,293 participants. They found 441 patients, or 34.1%, developed long COVID. Univariate analysis revealed significant associations between long COVID and female sex (P = .01), older age (P < .001), high body mass index (P = .01), and the presence of allergies (P = .001). Vaccination with 3 doses and infection in wave 3 correlated with a lower odds of developing long COVID (odds ratio [OR] 0.42). Greater odds of long COVID were associated with the self-reported positivity duration of self-testing (11–14 days: OR, 2.30 [95% CI: 1.53–3.46], P < .001; 15–21 days: OR, 4.10 [95% CI: 2.84–5.91], P < .001; >21 days: OR, 5.39 [95% CI: 3.74–7.77]. Only 14.5% of individuals with a positivity duration of ≤10 days developed long COVID, while 42.5% for individuals infected for 15–21 days and 56.2% for those positive for >21 day developed long COVID.

Editor's Comments: The self-reporting of symptoms and positivity in the study introduces an element of bias. It is unclear what type of testing was used to confirm COVID-19 positivity in the methods. The population was also homogenous (ie, all Italian healthcare workers) and the results may not be generalizable. Only a single vaccine type was used for all the participants and all participants were vaccinated as well. While the study was retrospective, the linear increase in odds of long COVID with increasing duration of test positivity does lend credence to the veracity of the association. ■

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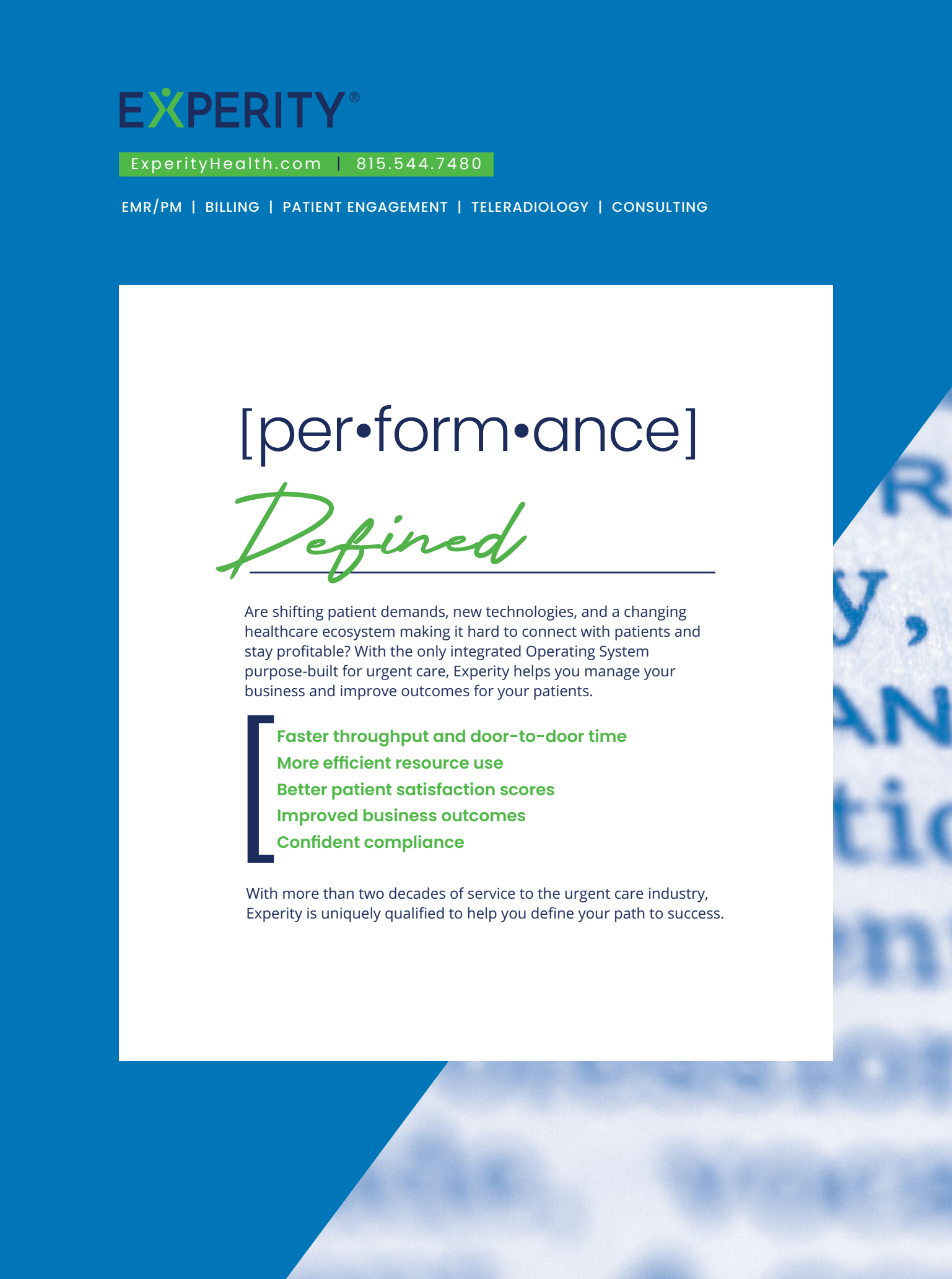

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Which IV Infusion Services are Most Appropriate for Urgent Care?

Urgent Message: When offered as a medical service consistent with an urgent care center's branding, IV infusion can enable new revenue streams and expand the center's appeal to a new base of patients.

Alan A. Ayers, MBA, MAcc

According to the Urgent Care Association (UCA), the capability to administer intravenous (IV) medications is a defining feature of urgent care.[1] Along with x-ray services and suturing, the availability of IV treatment differentiates urgent care from lower-acuity primary care and retail health clinics. While the UCA does not specify which IV treatments should be made available, urgent care centers should be prepared with the necessary supplies and staff training to administer IV medications and fluids.

Expanding into new infusion services presents an opportunity for urgent care operators who want to build upon the services already offered. IV infusions are in demand for many reasons. For example, consumers are seeking relief from dehydration, hangovers, endurance sports, and mental health concerns. Some patients need routine infusions of a novel medication to treat a chronic condition or chemotherapy to treat cancer. There are many avenues of IV infusion for urgent care to explore.

Of course, not all IV infusion services are profitable or complement the urgent care model. Careful examination of common types of IV infusion offerings can help inform the strategic approach.

IV Infusion Offerings in Urgent Care

Certainly the most common use of IV infusions in urgent care is saline fluids for rehydration to complement routine medical visits. Patients presenting with dehydration from illness or fluid loss often benefit from receiving an infusion during their visit.

Still, some clinics don't offer even this basic service. Why? In streamlining operations, centers may feel compelled to avoid staffing limitations like needing a registered nurse, licensed practical nurse, certified medical assistant, or physician to deliver the IV service. At the same time, they might not have the capacity to manage lengthy observation times, adverse events, and dealing with a higher acuity level. Others don't have the volume required to generate enough profit from the occasional IV infusion.

But for most clinics, routine rehydration IV infusions are within the capabilities of daily operations. Clinics already offering IV infusions as part of their medical

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The Starting Point
IV fluids for dehydration serve a range of clinical presentations from heat exposure to hangovers to stomach flu. The starting point is for patients to be aware IV fluids administration is a service urgent care offers, paid by insurance when medically necessary, as part of the core injury and illness business.

care may benefit from looking for sensible ways to expand upon this existing service with new business opportunities, while considering the consumer perspective.

1. 'Designer' IV Cocktails

Popularized by social media influencers and the growing wellness trend, "designer" IV cocktails offered by specialty clinics have been attracting consumer interest in recent years. Consumers pay roughly $150-200 in cash for an infusion designed to boost "brain power" or "inner beauty" with a mix of vitamins and minerals.

From a business perspective, this model is dubious at best as households are struggling financially in light of recent inflation to afford necessities. How many consumers are ready to spend $150 in cash for a weekly "brain boost?" Even in an affluent market, this service is closer to cosmetic Botox, laser treatments, and the aesthetic services offered at a spa than medically necessary care. So while urgent care can technically offer such infusions, they often must be advertised at a low price point to compete with more fashionable venues. The result? Frightfully thin margins for urgent care.

Without an evidence-based, clinical rationale for administering these vitamin cocktails intravenously, urgent care operators could also set themselves up for potential legal risks. Ultimately, the novelty of this category of IV treatment is the driving force for demand, and urgent care operators should be wary of this fleeting trend, especially when it detracts marketing dollars and operational staff from the core illness and injury business.

2. Hangover Recovery

Similar to IV wellness cocktails, hangover recovery infusions have also gained popularity in recent years. The market for these treatments is primarily centered around large cities, especially those with "party" reputations like Miami and Las Vegas. Companies offering IV hangover infusions also operate on a cash basis, charging $150-200 per visit.

The IV infusion of fluids can help with dehydration when present, but it will not counteract the symptoms of a hangover, such as headache, nausea, or delayed reaction time. Medical experts agree that there is no "cure" for hangover.[2]

3. Ketamine

The most controversial type of infusion appearing in urgent care is ketamine. Another cash-based service, patients pay $300-400 per session for the off-label use of the anesthetic drug. Reports tout the drug's ability to stimulate brain activity and treat certain behavioral health disorders. However, offering ketamine infusions is not without risk as ketamine is not FDA approved for the treatment of any psychiatric disorder, and providing it without medical monitoring can create serious risk of adverse events.[3] The FDA-approved indication for ketamine is as a sole anesthetic agent for diagnostic and surgical procedures.[3]

Additionally, the fiscal viability of ketamine in urgent care is difficult to assess. A physician is needed—ideally one with prior experience and expertise in off-label use of ketamine—as is a relationship with a specialty pharmacy. Competition in the market can be stiff with many dedicated clinics and specialty behavioral health centers popping up in big cities like Chicago and Los Angeles going after a finite number of patients.

Ketamine infusions are also a more unusual addition to urgent care clinics since they don't complement the most common clinical presentations. Though some clinics have found success, operators should cautiously consider their goals and demand in their community before undertaking this expansion.

4. Routine Prescription Infusions

Each year, leading drug manufacturers develop new specialty medications that require IV infusion. Many of these must be delivered intravenously on a routine schedule—often monthly or quarterly. Certain chemotherapy infusions also fall into this category. Urgent care is well-positioned to administer these drugs thanks to its convenient evening and weekend hours, already-equipped centers, and proximity to patients. The idea is for urgent care to become an "infusion center."

Urgent care providers typically do not prescribe infusion medications like risankizumab-rzaa (Skyrizi) or eptinezumab-jjmr (Vyepti). Rather, the patient's primary care provider or a specialist writes the prescription and would refer the patient to urgent care to receive their infusion. Urgent care centers often have the medical resources to administer these drugs, as well as safety measures like defibrillators, electrocardiogram capabil-

Practical Challenges

There are some practical challenges in urgent care becoming a medical "infusion center." Infusions in which the diagnosis and prescription originate from an outside specialist may not be reimbursable under urgent care contracts. Urgent care operators should contact their payer partners to identify what they can bill and/or how they can be contracted to provide these services. Some infusion services are reimbursed by pharmaceutical companies.

Referral relationships often start by contacting the specialists treating infusion patients and/or the pharmaceutical companies directly. Processes need to be established to get the medication—whether it's shipped directly to the center or brought in by the patient—as some of these treatments cost thousands of dollars and many require special handling, such as refrigeration. Additionally, there needs to be a clinical understanding of the administration, side effects, and adverse events of each medication.

Operationally, clinic processes need to be defined including how patients will register, how payment will be processed, which rooms will be taken out of service, which staff members will attend to the patients, and the days infusions will be offered. Consideration must be given to minimize any disruption on the throughput of urgent care visits.

ities, oxygen, and providers with emergency medicine training to manage adverse events.

Currently, medical infusions may be recommended after referral by the treating specialist or primary care physician for administration at hospitals or at specialty "infusion centers," which are often inconveniently located on medical campuses and/or operate only during daytime hours. For a patient receiving a monthly or quarterly infusion, urgent care could be a tremendous convenience.

As the number of IV infusion therapies continues to grow, this is a potentially profitable avenue for urgent care operators to explore. For patients who need recurring infusions, urgent care is a potentially attractive option thanks to its convenience and efficiency.

How Do You Bill for Infusions?

Initially, a medical coder will need to determine what treatment the patient received, how it was given, and how long it took to deliver the treatment. Once these three criteria are determined, an appropriate therapy code is selected, and based on the duration, an appropriate add-on code is selected.

Table 1. Injection and Infusion Term Definitions

- **Infusion:** Administration of diagnostic, prophylactic, or therapeutic intravenous (IV) fluids and/or drugs given over a period of time. (eg, banana bags, heparin, nitroglycerin, antiemetics, antibiotics, etc.)
- **Injection:** The act of forcing a liquid into the body by means of a needle and syringe. Injections are designated according to the anatomic site involved; the most common are intra-arterial, intradermal, intramuscular, intravenous, and subcutaneous (subQ). Injection delivers a dosage in one "shot" rather than over a period of time.
- **IV Push (IVP):** An IV administration of a therapeutic, prophylactic, or diagnostic drug.
- **IV Piggyback (IVPB):** A method to administer medication through an existing IV tube inserted into a patient's vein, hence the term "piggyback." The medication in an IV piggyback is usually mixed in a small amount of compatible fluid, such as normal saline.
- **Intramuscular (IM) Injection:** An injection of a therapeutic, prophylactic, or diagnostic drug into the substance of a muscle, usually the muscle of the upper arm, thigh, or buttock. Intramuscular injections are given when the substance needs to be absorbed quickly.
- **Hydration:** Typically an administration of prepackaged fluids and/or electrolytes without drugs. Examples include normal saline, sodium chloride, dextrose 5% in water, dextrose in ½ normal saline, dextrose in ½ normal saline plus potassium.

Source: Phyllis Dobberstein, RCM Compliance Manager, Experity

Table 1 provides definitions, and **Table 2** provides the CPT codes used for infusion and injection billing.

When infusion and injection codes are reported by the physician or other qualified healthcare professional, the initial code that best describes the key or primary reason for the encounter should always be reported, regardless of the order in which the infusion or injection occurs.

Once the correct initial code is selected, "add on" codes of all other categories of the infusion coding should be chosen.

The primary intent of an injection as described by 96372 is to deliver a small volume of medication in a single shot. The substance is given directly by subcutaneous (subQ), intramuscular (IM), or intra-arterial (IA) routes, as opposed to an intravenous (IV) injection/push that requires a commitment of time. Injection code

Table 2. CPT Codes Used in Billing for IV-Related Services

Infusion	IV Push	Hydration	Injection
96365 – Initial infusion up to 1 hour	96374 – Initial push or infusion less than 16 minutes	96360 – Initial hydration up to 1 hour; must be at least 31 minutes	96372 – IM/SubQ Injection
96366 – Each additional hour	96375 – IV push, each push of a different drug	96361 – Hydration each additional hour; must be 31 minutes or longer	90471 – IM/SubQ Vaccine
96367 - Sequential infusion up to 1 hour (use 96366 foradditional hours ofsequential infusion)			
96368 - Concurrent infusion (report onlyone per encounter)			

Note: In any case with an IVP injection, infusion, or hydration along with an IM or subQ injection, the IM or subQ injection will require modifier 59 for unusual, overlapping services (96372-59).

Source: Phyllis Dobberstein, RCM Compliance Manager, Experity

96373 is reported with any IV drug administration in the same encounter. Modifier 59 should be used when 96373 injection is performed.

When two therapies are performed in the same encounter, the coder will select one initial code of one therapy and add on the code of the other therapy. There will always be one initial code for a date of service unless there are different access sites used for different therapies.

Additional coding and billing considerations include:

- Hydration therapy below 30 minutes is not considered "medically necessary" and hence not coded unless 31 minutes of treatment duration is met.
- "Keep Vein Open" is not coded unless the treatment is medically necessary.
- For IVPB, the documentation on piggybacking or mixing of drugs in fluids should be clearly captured in the medical record.
- Any IVPB below 16 minutes is considered as IVP.

Is Offering Infusions Worth it?

Ultimately, the decision to begin offering or expanding infusion services must be weighed seriously. Operators should consider the needs of their community, the expertise of their providers and staff, as well as the financial benefit and risk. Moreover, care must be taken to not detract from the core business of treating urgent illnesses and injuries, which the community relies on. If adding additional infusion services comes at the cost of having unreliable illness and injury care, the expansion likely is not worth it. Offering too many services can quickly stretch an urgent care thin, causing the clinic to fail in execution of one or more services.

However, many urgent care clinics do have the capacity to offer infusions as a beneficial service for their community. By meeting demand and providing high-quality care, these services can be profitable and provide access to new segments of the market.

Conclusion

Urgent care is faced with the prospect of diversifying by adding more and more unique services. IV infusions are only one avenue to consider. Though branching out can be a viable way to expand the reach of your center, don't neglect the basics. For those considering an expansion into IV infusions, carefully consider which type is most realistic and beneficial for your center both now and in the future. ■

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Case Report

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See CME post-test questions on page 15.

Incomplete Kawasaki Disease Clinically Diagnosed From Urgent Care: A Case-Report-Based Review

Urgent Message: The accurate and prompt diagnosis of Kawasaki disease depends on clinicians' familiarity with the diagnostic criteria and ability to recognize the waxing and waning manifestations of this pediatric condition.

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Abstract

Introduction

Kawasaki Disease (KD) is a panvasculitis condition that is the leading cause of coronary artery disease (CAD) and heart disease in childhood. It is a diagnosis that depends heavily on the clinician's ability to recognize the clinical manifestations. Lab tests and other tests can aid clinicians with the diagnosis, but they do not confirm the presence of KD. The key to efficient diagnosis is recognizing the clinical diagnostic criteria for KD and promptly initiating treatment. The diagnostic criteria involves fever for at least 5 days and at least 4 out of the 5 additional clinical findings, with symptoms not explained by another diagnosis. If only 2 or 3 criteria are met with a fever for at least 5 days, incomplete KD can be diagnosed. Although KD can be a self-limited disease, morbidity and mortality can arise if children are inadequately treated. Complications of KD associated with delays in treatment include coronary artery aneurysms. Intravenous immunoglobulins (IVIG) and high-dose aspirin are the cornerstones of KD treatment.

Clinical Presentation

A 3-year-old boy presented to a local urgent care (UC) twice within a period of several days. He had fever at both visits and associated rash, conjunctivitis, lymphadenopathy, and oral involvement. Rapid testing for Strep pharyngitis, throat culture, and influenza viral testing were negative. The fever had persisted for 6 days by the time of his second visit and was not responsive to antipyretics.

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Diagnosis, Interventions, and Outcome

Based on the clinical criteria for diagnosis, KD was confirmed at the second UC visit. The patient was referred immediately to a pediatric emergency department (ED). The hospital clinicians felt that the diagnosis of KD was appropriate, and the patient was admitted. He received IVIG and was discharged without any adverse events. At a 1 month cardiology follow-up, his echocardiogram was reassuring, and no apparent persistent cardiac consequences were evident.

Conclusion

The accurate and prompt diagnosis of KD depends heavily on clinicians' familiarity with the diagnostic criteria and ability to recognize the commonly waxing and waning manifestations of this pediatric condition. While KD can be diagnosed clinically, signs and symptoms overlap with many self-limited illnesses for which children commonly present to UC. However, vigilance and consideration for KD are critical as early diagnosis dramatically reduces the risk of cardiac complications.

Introduction

Kawasaki disease, formerly known as mucocutaneous lymph node syndrome, is a panvasculitis condition affecting children most commonly under the age of 5.[1] It was discovered by Tomikasu Kawasaki, MD, in 1967.[1] Mucocutaneous lymph node syndrome gets its name because it typically affects mucous membranes, skin, lymph nodes, and blood vessels.[2] Kawasaki disease received increased attention during the SARS-CoV-2 (COVID-19) pandemic given its relation to the multisystem inflammatory syndrome in children (MIS-C), a novel entity and uncommon, but serious complication of COVID in children. MIS-C consists of myocarditis, toxic shock syndrome, and KD.[3]

While COVID-19 can lead to MIS-C, a Kawasaki-like illness, the etiology of KD remains poorly understood. Multiple candidate theories regarding the etiology have been proposed, including autoimmunity most notably, and research on the pathogenesis continues.[2,4]

The incidence of KD in children under 5 years ranges from 3.4 to 218.6 cases per 100,000 children and varies regionally throughout the world.[5] The prevalence of KD is highest in Asia, specifically in Japan, China, and Korea. Mortality associated with KD, which typically relates to cardiovascular complications, has been declining from greater than 1% in the 1970s to approximately 0.01% today. This decline in mortality is likely driven by trends toward earlier detection and increasing recognition of incomplete and atypical versions of the condition.[5]

UC is ideally suited for detection of KD, as the diagnosis relies heavily on clinical criteria.[6] There are no laboratory findings specific to the diagnosis of KD. However, laboratory findings can offer support for the diagnosis and are required, especially in infants who less commonly have the major criteria present.

Case Presentation

A 3-year-old boy was brought in by his mother with concerns for 4 days of tactile fever, runny nose, and decreased appetite. The mother denied that the patient had any vomiting, diarrhea, cough, ear pain, rashes, recent travel, or insect bites. The patient's vaccinations were up to date.

Vital signs at the initial visit included:

- Temperature: 39.7°C
- Heart Rate: 154 beats per minute
- Blood Pressure: 90/60 mm/Hg
- Respiratory Rate: 24 breaths per minute, unlabored
- Oxygen Saturation: 99% (on room air)

Physical exam revealed the patient to be alert and in no distress. The patient's eyes appeared watery, and there was mild conjunctival injection without purulent discharge. Bilateral tympanic membranes appeared normal. He had a strawberry-appearing tongue, erythema to the lips, and was drooling. There was mild bilateral, non-tender, anterior cervical lymphadenopathy (>1 cm). The patient's cardiopulmonary and abdominal exams were unremarkable. There was a vague blanching maculopapular rash noted throughout the patient's trunk and on the bilateral arms and legs, which spared the palms and soles.

During the visit, the patient had rapid swabs for Group A Streptococcus (GAS) and influenza, which were both negative, and a throat culture for Group A Streptococcus was sent to the lab, given consideration for scarlet fever. The patient was presumptively diagnosed with a viral infection.

The initial UC clinician recommended supportive treatment, prescribed saline nasal spray for congestion, and acetaminophen and ibuprofen as needed for fever. The mother was given strict return precautions including fever lasting more than an additional 2 or more days, or refractory to antipyretics, vomiting, difficulty breathing, rapid spreading of the rash, or other concerning changes.

Two days later, the throat culture results returned negative. The clinician following up on tests called the patient's mother to inform her of the results; at that

Table 1: Comparison of Kawasaki Disease to MIS-C[3]

Kawasaki Disease	Multisystem Inflammatory Syndrome in Children
• Median age of 6 months to 5 years old • Lymphopenia is rare – Thrombocytopenia, although less common, is a sign of disseminated intravascular coagulation and is directly related to increased risk of coronary artery aneurysms	• Median age of 6 to 11 years old • Lymphopenia is present • Lower platelet count compared to KD • Lower absolute lymphocyte count compared to KD • Higher levels of C-reactive protein, N-terminal pro-B-type natriuretic peptide, troponin and ferritin compared to KD • Coagulation abnormalities including elevated D-dimer and fibrinogen
• No known evidence of SARS-CoV-2 virus exposure or detection	• SARS-CoV-2 virus detected weeks before symptom onset
• High incidence of: – Conjunctival injection – Oral mucous membrane changes • Low incidence of shock	• High incidence of: – Gastrointestinal symptoms (abdominal pain, vomiting, and diarrhea) – Myocarditis – Coagulopathy – Shock • Higher morbidity compared to KD

time, she stated that she was actually already on her way returning to the UC center because the fever had continued despite antipyretics. At this point, the patient had been febrile for a total of 6 days.

Vital signs at the second visit included:

- Temperature: 39.5°C
- Heart Rate: 150 beats per minute
- Blood Pressure: 92/60 mm/Hg
- Respiratory Rate: 24 breaths per minute, unlabored
- Oxygen Saturation: 98% (on room air)
- Weight: 28 pounds (12.73 kilograms)

On physical exam, the patient seemed more fatigued than his initial visit but was non-toxic appearing. He was alert, but fussy, and had normal skin turgor. The patient had more pronounced conjunctival injection. It was noted that the erythematous rash on his trunk and extremities had increased since his first visit and now also involved the face. The mild, bilateral cervical lymphadenopathy was present and unchanged. The patient had moist mucous membranes and the strawberry tongue persisted and was now accompanied by pharyngeal erythema.

Differential Diagnosis and Medical Decision Making

KD is an important consideration to keep in mind whenever evaluating children with fever, however, certainly this is only one condition in a necessarily broad differential. Strep throat and other Group A Streptococcal infections (eg, scarlet fever) and influenza are common causes of pediatric fever. Thankfully, most UC centers have point-of-care (POC) testing available to evaluate for these conditions.

Adenovirus can mimic signs and symptoms of KD, especially when conjunctivitis and pharyngitis are present. However, adenovirus typically presents with exudative conjunctivitis, exudative pharyngitis, and fever, and typically does not present with other signs and symptoms of KD including erythema and swelling of the hands and feet, strawberry tongue, and rash.[7] Some UC centers have access to respiratory viral panel (RVP) nucleic acid testing which may be considered in situations with an ambiguous etiology. However, clinicians should exercise caution in interpreting these tests as up to 70% of children presenting with fever may test positive for one or more viral pathogen, yet testing positive for a respiratory virus does not confirm this is the source of present fever.[8]

POC urinalysis can be considered if urinary tract infections is suspected or when children present with fever and no localizing symptoms. In unvaccinated children, less common infections, such as measles, may be responsible. Depending on the geography and travel history, conditions ranging from leptospirosis to Rocky Mountain spotted fever (RMSF) might be considered. Finally, non-infectious causes such as Stevens-Johnson syndrome, hematologic malignancies, and autoimmune conditions, such as juvenile idiopathic arthritis, might be considered.[9]

Kawasaki disease can mimic atypical pneumonia, with the possibility of interstitial and/or peribronchial infiltrates seen on chest radiography.[7] In the presence of what seems like atypical pneumonia in children aged 3 and older, KD is a consideration when there is no response to antibiotics or the patient is failing to improve

or defervesce as expected.

This patient's illness occurred before the COVID-19 pandemic. If he had been seen during the era of COVID, MIS-C secondary to COVID-19 certainly would have been important to include in the differential for this presentation. While almost half of the patients with MIS-C meet the criteria for KD, there are key differences between the two illnesses worth noting as detailed in **Table 1**.[3]

Final Diagnosis and Disposition

Given that this patient's fever had lasted for 6 days and there were no alternate explanations for his symptoms, the clinician astutely had a high suspicion for KD. Although the patient did not meet all the major criteria for diagnosis, the UC clinician recommended that the patient be referred to the pediatric ED.

The pediatric clinicians caring for the patient diagnosed the patient with incomplete KD, and he was admitted and started on IVIG. He was hospitalized for nearly a week until the fevers had resolved and his echocardiogram was verified to be stable and normal. He subsequently followed up as an outpatient 1 month later in the pediatric cardiology clinic. A repeat echocardiogram did not show any coronary artery aneurysms, and the patient had fully recovered.

Discussion

KD is the leading cause of acquired coronary artery disease and heart disease in childhood.[10] Treatment of KD with IVIG within 10 days of fever onset reduces the risk of these complications.[11] Fortunately for the patient and his family, the clinician suspected KD on the sixth day of fever and referred him to the ED where the diagnosis was confirmed.

Laboratory tests that help in confirming the diagnosis of KD include elevated erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), alanine aminotransferase, anemia, leukocytosis, hypoalbuminemia, and pyuria. Thrombocytosis commonly develops somewhat later in the disease course. Although these laboratory findings are not specific to KD, the diagnosis can be excluded if the platelet count, ESR, and CRP are normal after the seventh day of illness.[12]

The diagnosis of KD relies on presence of clinical manifestations. The American Heart Association (AHA) first published the KD criteria for diagnosis in 2004,[13] and these updated most recently in 2017.[7] A high fever (at least 38.5-39C) must be present for 5 days or more and accompanied by 4 out of 5 of the major diagnostic criteria as seen in **Table 2**.[7] If 4 or more of the major diagnostic criteria are met, and there is redness and swelling of the hands and feet, the diagnosis of KD can be made after only 4 days of fever instead of 5.[7] Other diagnoses with similar symptoms importantly must be excluded to confirm KD, such as viral exanthems (eg, measles), other viral infections (eg, adenovirus and enterovirus), Stevens-Johnson syndrome, vector-borne illnesses (eg, RMSF), and GAS and Staphylococcal toxin-mediated diseases (eg, scarlet fever and toxic shock syndrome).[10,14] It is important to note that not all criteria necessary to diagnose KD need be simultaneously present to make the diagnosis. To that end, when considering KD, it is worthwhile to inquire about the presence of symptoms that may have resolved prior to UC evaluation.

In addition to the major clinical findings, other signs and symptoms that may be present but are not diagnostic of KD are enumerated in **Table 2**.

KD tends to present with less overt symptomatology in infants. Diagnostic clues to KD in infants include the presence of prolonged fever and irritability, especially in those less than 6 months of age, or aseptic meningitis, culture-negative shock, cervical lymphadenitis unresponsive to antibiotics, and persistent pharyngeal inflammation unresponsive to antibiotics.[7]

If only 2 or 3 of the major clinical findings are met in addition to fever for at least 5 days, atypical, otherwise known as incomplete, KD may be diagnosed.[14] Incomplete KD comprises between 15% and 35% of cases with the likelihood of incomplete, or atypical, KD being highest in children less than 12 months or over 5 years.[4] Those with incomplete KD are roughly 3 times more likely to experience a delay in diagnosis.[15]

The patient in this case report had incomplete KD as he only had 3 of the 5 major criteria present for diagnosis. Specifically, the major criteria present were: fever (>39C) for 6 days accompanied by a polymorphous rash, oral mucosal changes (ie, strawberry tongue and erythematous lips), and conjunctival injection. The patient had mild bilateral cervical lymphadenopathy, but it did not meet the specific criterion as they were not >1.5cm or unilateral.

The primary goal in the diagnosis of KD surrounds early identification, as this offers the best opportunity to prevent cardiac complications. IVIG and high-dose aspirin are the mainstays of treatment. The incidence of coronary artery aneurysms (CAA) is 15–25% in untreated patients, and less than 5% in patients who receive IVIG.[4] CAA occur mostly in children less than 12 months and those older than 5 years, and in those for whom IVIG is initiated late in the disease process. Nearly 65% of children with KD under the age of 6 months will develop CAA, even if promptly treated with IVIG.

Table 2. Diagnosis of Kawasaki Disease (adapted from AHA 2017 update)[7]

Kawasaki disease can be diagnosed with a fever (generally ›38.5C) for ≥ 5 days with 4 out of the 5 of the major clinical findings listed below.

Kawasaki disease can be diagnosed after only 4 days of fever instead of 5 in the following scenarios:
- Must meet 4 or more of the major diagnostic criteria listed below
- Edema and erythema of the hands and feet must be present

Incomplete KD can be diagnosed with a fever for ≥ 5 days, less than 4 of the major clinical findings, and compatible laboratory or echocardiographic findings.

Transient clinical findings should be included in the diagnostic criteria, even if not present during evaluation.

Major Clinical Findings Considered Diagnostic Criteria For KD	
1. Extremity changes	**Acute** • Edema of hands and feet • Erythematous rash of palms and soles **Subacute (weeks 2-3)** • Desquamation of palms and soles • Periungual desquamation of fingers and toes
2. Polymorphous rash	• Diffuse maculopapular • Urticarial • Erythema multiforme-like
3. Conjunctival injection	• Bilateral non-exudative conjunctival injection
4. Oral mucosal changes	• Erythema of lips • Lips cracking • Strawberry tongue • Diffuse injection of oral and pharyngeal mucosa
5. Cervical lymphadenopathy	• Unilateral and measuring › 1.5 cm diameter
Other Clinical Findings Not Included In The Diagnostic Criteria For KD That May Present	
Cardiovascular	• Myocarditis or pericarditis • Coronary artery abnormalities • Medium-sized non-coronary artery aneurysms • Peripheral gangrene • Aortic root enlargement • Shock – Patients with shock are at higher risk of complications including coronary artery aneurysms and IVIG resistance
Respiratory	• Infiltrates on chest X-ray • Pulmonary nodules
Musculoskeletal	• Arthritis
Gastrointestinal	• Vomiting and diarrhea • Abdominal pain • Jaundice • Gallbladder hydrops • Hepatitis • Pancreatitis
Nervous system	• Aseptic meningitis • Irritability • Facial nerve palsy • Sensorineural hearing loss • Seizures
Genitourinary	• Urethritis • Hydrocele
Other	• Desquamating rash to the groin • Anterior uveitis • Retropharyngeal phlegmon • Erythema and induration of Bacillus Calmette-Guérin (BCG) injection site

It appears that the size of CAA is positively correlated with the duration of fever.[16] If the fever lasts more than 10 days, it also increases the risk of IVIG resistance.[17] Because of this, children with KD should start IVIG treatment within 10 days of fever onset to minimize cardiovascular morbidity and IVIG resistance.

Children with incomplete KD are at higher risk of developing CAA, which is largely felt to be attributed to delays in diagnosis.[18] UC clinicians should consider this when discharging pediatric patients with suspected viral illnesses and ensure that parents seek repeat evaluation in the case of persistent fevers. It is also important to appreciate that KD can co-exist even in presence of infections if patients meet the diagnostic criteria for KD.[7]

Thankfully, the patient outlined had a favorable outcome, as do most children when KD is diagnosed early and appropriate treatment is initiated. Unfortunately, patients who are not diagnosed with KD in a timely fashion, as is often the case with incomplete KD, may not respond to standard therapies and are at higher risk of serious cardiac complications.

Take Home Points

Kawasaki disease is a clinical diagnosis. Lab tests can be helpful but do not confirm the diagnosis of KD.

- To diagnose KD, a high fever (>38.5°C) must be present for at least 5 days and accompanied by a minimum of 4 out of the 5 the major criteria which are:
  - Extremity changes, including erythematous rash and swelling of palms and soles
  - Polymorphous rash
  - Conjunctival injection
  - Oral mucosal changes
  - Unilateral cervical lymphadenopathy
- If there are 4 or more of the major diagnostic criteria met, and there is redness and swelling of the hands and feet, the diagnosis of KD can be made after only 4 days of fever.
- If only 2 or 3 of the major diagnostic criteria are met with at least 5 days of fever, incomplete KD may be diagnosed.
- The symptoms of KD do not have to be present at the same time to make the diagnosis. It is important to ask parents about the presence of symptoms that may have been resolved before the urgent care visit.
- The primary goal is to diagnose KD as early in the disease process as possible to avoid the complications associated with it, including coronary artery aneurysms, or coronary artery dilatation, and IVIG resistance.
- IVIG is the mainstay of treatment, along with high-dose aspirin for anti-inflammation.
- Strict return precautions are important to convey to parents, especially when there is suspicion for KD.

Ethics Statement and Patient Perspective

The patient and his family were lost to follow-up and were therefore unable to give consent. Patient demographics were changed to protect patient anonymity and confidentiality. ■

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Original Research

Using Urgent-Care-Based Telemedicine to Increase Primary Care Referrals: A Quality Improvement Project

Urgent Message: A quality improvement project demonstrated increased referral rates to primary care from an urgent care telemedicine service line for those who did not have a primary care provider.

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Key words: Effective care, primary care referral, telemedicine, urgent care, access to care, shared decision-making

Abstract

Objectives: For patients presenting to an urgent care (UC) telemedicine practice, our objective was to determine if a "screening, brief intervention, and referral to treatment" (SBIRT) model would increase referrals to primary care for patients who did not have a primary care provider (PCP).

Methods: This quality improvement project was conducted over 8 weeks at a UC telemedicine practice in Washington state with an average daily volume of 100 patient visits. Five advanced practice clinicians (APC) participated in this study. The SBIRT model was used as the intervention. Patients were screened for having a PCP during the visit, and those identified as not having PCP were provided a brief intervention via a shared decision-making tool on the benefits of primary care, and, if necessary, were provided a referral to primary care.

Results: Over the course of 8 weeks, 455 patients were seen by 5 different APCs in Washington state, and 95%

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Table 1. Core Interventions

	Plan-Do-Study-Act Cycle			
Core intervention	**Week 1-2**	**Week 3-4**	**Week 5-6**	**Week 7-8**
SBIRT model	Implement screening and referral workflow and SDM tool with one provider	Implement screening and referral workflow and SDM tool with four additional providers (spread)	Add option for direct scheduling patient during virtual visit to the screening and referral workflow	Include electronic referral in EHR in the screening and referral workflow and assess patient barriers to accessing primary care with SDM tool
Shared Decision Making	Implement SDM (SURE tool) with one provider	Spread intervention to four additional providers	Transfer SURE tool to Microsoft form for providers to collect results	Assess patient barriers to accessing primary care

PCP = primary care provider; SBIRT= screening, brief intervention, referral for treatment; SDM = shared decision making; EHR = electronic health record; SURE = Sure of myself, Understand the information, Risk-benefit ratio, Encouragement

(n = 430) were screened for having a PCP. During the intervention period, the referral rate for adult patients with no PCP increased from a baseline of 8% to 93% (81/87) over the implementation period. This exceeded the initial goal set before the project began of achieving an 84% referral rate for patients without a PCP. By the end of the implementation period, 31% (25/81) of patients already had an appointment scheduled with a PCP as a result of the referral. The intervention added an average of 2.5 minutes to each visit, which was below the set balancing measure.

Conclusion: After implementing SBIRT, the referral rate from a UC telemedicine service line to primary care increased from 8% to 93%, and 31% of referred patients had scheduled an appointment with primary care.

Introduction

According to the United States Department of Health and Human Services, 20-25% of adults in the United States (US) lack a primary care provider. Access to primary care has been shown to decrease overall morbidity and mortality rates and is associated with improved metrics of health equity.[1-2] Additionally, in 2020, the Primary Care Collaborative reported that only 8% of US adults ages 35 and older have received appropriate preventive services, suggesting that system-level efforts are needed to increase access and use of preventive care.[1] US healthcare spending rose 2.7% in 2021 to reach $4.3 trillion, however, only 5-7% was used for primary care.[1,3] Annual demand for emergency and UC services is increasing by as much as 3-6% per year.[4] Studies suggest that large proportions of patients (10-60%) accessing emergency and urgent care services could be managed using lower-acuity care, such as primary care.[4] Studies have shown that referring patients to primary care from the emergency department (ED) resulted in significant decreases in subsequent ED utilization.[5] Lack of access to primary care is associated with higher out-of-pocket expenses and increased emergency department use.[6]

Primary care access has also been shown to reduce overall healthcare spending, likely through chronic disease prevention and early management of health problems as they arise.[7-8]

Disparities in access to primary care exist, and screening patients while also assessing barriers to primary care can help mitigate these disparities.[9] Engaging patients in shared decision making (SDM) can help them make informed decisions to improve health outcomes and understanding.[10] Simplifying the referral process increases patient follow-through, and appropriate follow-up can help identify barriers.[11-12] The Institute of Medicine (IOM) states that strategies such as team-based care can be effective to improve access and make care more efficient.[13]

Methods

This quality improvement (QI) project was conducted at an urgent care telemedicine practice in Washington state to determine if implementing a screening and referral workflow and providing a brief intervention on the benefits of primary care using shared decision-making would increase the number of referrals placed to

Table 2. Core Intervention Measures and Results

Core intervention		Operational definitions	Project total		
Intervention	Tool		*N*	n	(%)
Screening/Referral for PCP	Screening and Referral Workflow	Process: Number of adult patients screened/Number of adult patients seen	455	430	(95)
Shared Decision Making	SURE tool	Outcome: Number of adult patients with no PCP given a referral/Total Number of adult patients with no PCP seen	87	81	(93)
		Process: Number patients SDM used/Number documented in log	87	84	(94)
		Outcome: Mean SURE Test Score (0-4 scale)	84		3.9

PCP = primary care provider; SURE = Sure of myself, Understand the information, Risk-benefit ratio, Encouragement; SDM = shared decision making; SURE tool: range 0-4, with 4 being the highest (greatest understanding).

primary care for patients with no PCP. The practice is composed of a director of operations, 31 advanced practice clinicians, a physician medical director, registrars, and medical assistants. The clinic sees an average of 100 patients daily throughout Washington state in both rural and urban areas. Five APCs participated in the 8-week QI implementation. A random chart audit of patients was performed to make a general assessment of the proportion of patients with a PCP before implementation.

This project aimed to improve effective care in a telemedicine urgent care by increasing the referral rate to primary care for adult patients with no PCP. A goal of 84% was adopted from HealthyPeople 2030, which outlines an objective of increasing the proportion of people with a PCP to this figure by 2030.[14]

The IOM's (2001) effectiveness framework, which emphasizes use of evidence-based care and best practices, was used to support the intervention.[15] We used the SBIRT method, which has been shown to be an effective strategy for affecting healthy behaviors and appropriate referrals.[16]

The Plan-Do-Study-Act (PDSA) model for quality improvement planning was used in conducting this project.[17] Over the 8-week implementation period, 4 PDSA cycles, each lasting 2 weeks, were conducted for the intervention (**Table 1**). Each 2-week cycle was evaluated, and 1 small test of change (TOC) was performed.

This project was given a waiver from the institutional review board (IRB) as it met federal requirements for a quality improvement project under the US Health and Human Services definition[18] and did not constitute human subjects research.

Intervention

Using pre-implementation data from a causal diagram and gap analysis, several areas of improvement were identified. These included conducting screening of patients for PCPs, providing effective referrals to primary care, and providing follow-up for patients with no PCP. Using the SBIRT model, 2 tools were created to address gaps in effective care: a screening and referral workflow; and a SDM tool, which was integrated into the screening and referral workflow (**Table 2**). The screening and referral workflow utilized a step-by-step approach (**Figure 1**). First, each patient was screened by the provider to determine if they had a current PCP. If the patient did not have a PCP, a brief intervention using SDM was conducted. This involved discussing the rationale for obtaining a PCP and answering questions, then patient understanding was assessed using the 4-question SURE (Sure of myself, Understand the information, Risk-benefit ratio, Encouragement) tool using a 4-point Likert scale (0 = *lowest understanding* to 4 = *greatest understanding*).[19]

Providers then used the hospital's website to search for PCPs who were accepting new patients. If electronic scheduling was available for the PCP, the provider would also make an appointment for the patient during the virtual visit. If no appointments were available, the PCP's name, address, and phone number were placed in the patient's after-visit summary. If the patient had an online portal, a follow-up message was sent to the patient 1 week later to verify they had made the PCP appointment. If the patient did not have an online portal, the provider sent a staff message to the registrars to follow up with the patient in 1 week.

Study of the Intervention

Quantitative data from each SBIRT component was collected daily. Aggregate data was interpreted at the end of each 2-week cycle for the process and outcome measure. The SURE tool was used to evaluate the patient's decision to accept a referral to primary care. Qualitative surveys of members of the healthcare team were collected pre- and post-implementation and assessed for team member's perspectives. Accumulated qualitative and quantitative data from each cycle were used in the TOC for the next cycle.

Measures

This QI initiative implemented 2 processes and monitored for 2 outcomes of interest. (**Table 2**). The process measures tracked utilization of PCP screenings and the use of the SURE tool. The outcome measures tracked referrals and the SURE tool results. Visit time was used as a balancing measure to ensure visit times did not affect the flow of the telehealth practice. We set a goal to have average visit time remain less than 20 minutes with the implementation. To ensure accuracy, tools were integrated into a Microsoft form and crosschecked with daily visits in the electronic health record (EHR). The screening and referral workflow and SDM tool were developed based on a standardized toolkit, but neither were tested for validity.

Analysis

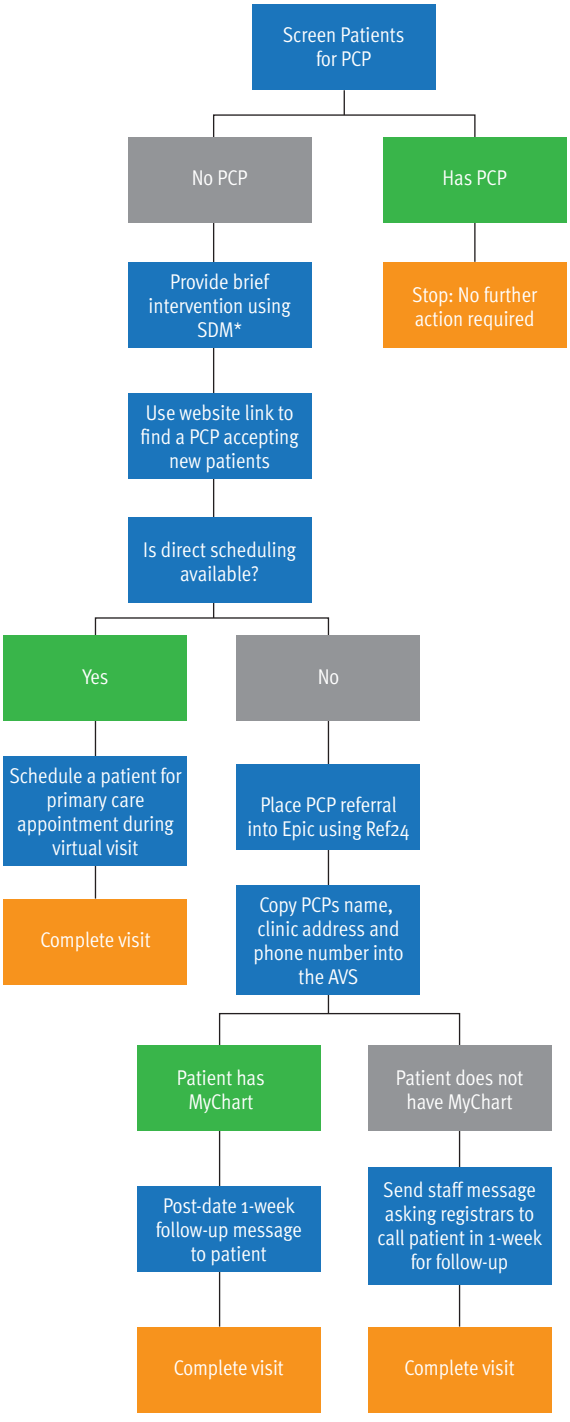
Run charts, which display data over time, were used to analyze the data extracted from the Epic EHR. Run charts are used to determine whether a change has occurred from preintervention to postintervention.[20] Each measure (process, outcome, aim, and balancing) had a corresponding run chart. Four rules are applied to run charts to determine if results are due to random variation or due to an attributable change from the process. These special-cause signals that represent statistical significance include: runs (a group of successive points below or above the median); shifts (6 or more consecutive points on one side of the median); trends (5 or more consecutive points continually increasing or decreasing); and astronomical points (greatly different than other data).[20] Each run chart was evaluated for these special-cause signals and helped to influence the next TOC. Qualitative data from field notes and team engagement were reviewed weekly for themes, and feedback was incorporated into each future TOC (iterative change).

Results

Demographics were similar between all patients seen at the site and those without a PCP. The population was primarily Caucasian, female, English-speaking, and had commercial insurance (**Table 3**).

Over the 8-week implementation period, 95% (*n* =

Figure 1. Referral Flowchart



Shared Decision Making: SURE (Sure of myself, Understand the information, Risk-benefit ratio, Encouragement); AVS = after-visit summary

Table 3. Demographic Data

Characteristic	Site Total (*N* = 455)		Implementation Total (*N* = 87)	
	n	(%)	*n*	(%)
Demographics				
Gender				
Male	114	(25)	27	(31)
Female	341	(75)	60	(69)
Age				
18-34 years	163	(36)	56	(64)
35-54 years	210	(46)	25	(29)
55- 64 years	30	(7)	2	(2)
65+ years	52	(11)	4	(5)
Race				
White	379	(83)	67	(78)
Other	43	(10)	10	(11)
Not reported	33	(7)	10	(11)
Language				
English	454	(99.8)	87	(100)
Other	1	(0.2)	0	(0)
Payer Type				
Commercial	325	(71)	59	(68)
Medicaid	84	(19)	24	(28)
Medicare	31	(7)	1	(1)
Uninsured/Self-pay	15	(3)	3	(3)
Washington Region				
Northeast	96	(21)	20	(23)
Northwest	189	(42)	37	(43)
Southeast	98	(22)	16	(18)
Southwest	72	(16)	14	(16)

430 of 455) of patients were screened to determine if they had a PCP, and of those screened, 20% (*n* = 87 of 430) did not have a PCP. Using SDM, 93% (*n* = 81 of 87) of the patients without a PCP were given a referral to primary care. Among this group, 31% (*n* = 25 of 81) of patients actually made a primary care appointment. (**Table 4**) During implementation, the average visit time increased by 2.5 minutes.

The SURE tool was used on 93% (*n* = 81 of 87) of patients with no PCP to ensure patients understood why they were being referred to primary care. The average score was 3.9/4 for patient understanding of the purpose of the referral.

TOC was performed for each 2-week cycle during the intervention, and there were several noteworthy findings in each cycle. As part of the workflow, the UC providers made referrals to primary care offices. Surprisingly, referral rates increased from 83% (*n* = 10 of 12) with 1 provider in cycle 1, to 91% (*n* = 19 of 21) with 5 providers in cycle 2. Providers commonly forgot to follow up with patients, and follow-up calls/online portal messages decreased from 80% (*n* = 8 of 10) in cycle 1, to 58% (*n* = 11 of 19) in cycle 2.

In cycle 3, the screening and referral workflow was adjusted to include an option, when available, to schedule patients with primary care during the virtual visit itself to improve the referral process and increase scheduled appointments. Reminders were placed in a team chat to follow up with patients to help increase the percentage of patients who received a follow-up. The reminders were an effective TOC, as 97% (*n* = 24 of 25) were given a referral, and 96% (*n* = 23 of 24) received a follow-up within 1 week—a significant increase from cycle 2.

At the end of cycle 4, barriers to primary care were assessed for themes and 4 significant themes were identified by the 28 respondents. Despite patients stating they had the tools they needed to make informed decisions, they cited long wait times to get an appointment, difficulty scheduling a visit, PCP shortages in the area, and previous PCP having retired or left the area.

Team engagement activities over the 8-week imple-

Table 4. Outcome Interventions for Referral, Follow-up, and Primary Care Appointments Scheduled

	PDSA Cycle 1			PDSA Cycle 2			PDSA Cycle 3			PDSA Cycle 4			PDSA Cycle 5		
Indicator	*n*	*N*	(%)	*n*	*N*	(%)	*n*	*N*	(%)	*n*	*N*	(%)	*n*	*N*	(%)
Patient given a referral to PCP	10	12	(83)	19	21	(91)	24	25	(96)	28	29	(97)	81	87	(93)
Patient receives a follow-up within one week of the initial visit	8	10	(80)	11	19	(58)	23	24	(96)	23	28	(82)	65	81	(80)
PCP appointment was made with follow-up only (not direct scheduling)	3	8	(38)	6	11	(55)	1	23	(4)	2	23	(9)	12	65	(18)
PCP appointment was made without follow up	0	0	(0)	2	8	(25)	0	1	(0)	0	5	(0)	2	14	(14)
PCP appointment was made with direct scheduling	--	--	--	--	--	--	3	22	(14)	8	26	(31)	11	48	(23)
Total PCP appointments made	3	10	(38)	8	19	(42)	4	24	(17)	10	28	(36)	25	81	(31)

PCP = primary care provider

mentation focused on clear and open communication and incorporating team feedback into each TOC. The team initially rated the ease of implementation scores low, with a mean Likert score of 2.9 (1 = *extremely difficult to implement* to 5 = *extremely easy to implement*). At the end of the QI project, the team survey was repeated, and the mean ease of implementation Likert score increased to 4.3 out of 5, which indicated this project was easier to implement than anticipated. Pre- and post-surveys of members of the care team identified insufficient numbers of local PCPs and long waits for appointments as implementation barriers, which were similar to barriers identified by patients.

Discussion

Twenty percent of patients included in our project lacked a PCP, which is consistent with reported values generally in the US.[2] The implementation of the intervention in this QI project increased the rate of referral to primary care of patients presenting for a telehealth UC visit within 8 weeks after initiating the SBIRT toolkit and SDM processes. Use of SDM increased to 93% over the 8-week implementation period with a mean patient SURE tool score of 3.9/4. Post-implementation team survey scores demonstrated that this project was easier to implement than anticipated, and the time to implement (2.5 minutes) remained below the balance measure goal (less than 5 minutes).

Availability and accessibility of PCPs substantially limited the effectiveness of the intervention. Commonly, patients wanted to schedule a primary care appointment during their visit, but no PCPs or appointments within PCP practices had availability. Attempts were made to mitigate access barriers by conducting follow-ups with patients who were provided with referrals. Other possible barriers that prevented successful referral included not having a dedicated referral coordinator and the lack of electronic referral capability within the EHR. The extent to which these logistical impediments affect successful referrals from UC to primary care would be a worthy topic of further study.

Implementing the SBIRT method increased screening rates, SDM, referrals, and patient follow-up. The process was intentionally kept simple in the hopes of increasing adoption by the APCs involved. Studies have suggested that making the referral process easier for patients increases the chances that they will follow through and receive care, which was corroborated by our findings.[12] Prior research on this topic has shown that organizational changes in healthcare are more likely to succeed when healthcare professionals have the ability to influence the change.[21] It is likely that engaging members of the care team and integrating their feedback positively influenced rates of adoption of the changes of workflow.

Our qualitative data suggested that both participating patients and providers were comfortable with the implementation of SDM and initiating referrals for patients without PCPs as evidenced by favorable ease-of-implementation scores and dramatic increases in referral rates. Given the limited additional time added to each visit, it seems feasible that similar measures could implemented in other virtual or in-person UC visits with limited associated cost to the organization.

Despite more than 90% of patients without PCPs receiving a referral by the end of the study period, the rate of actual visit scheduling with PCPs remained mod-

est (31%). This suggests the need for future study on the barriers preventing patients from realizing not only engagement with a PCP but actually having timely and regular access to primary care services, which are likely multifactorial.

Limitations

This project was implemented over just 8 weeks and carried out among a small group of providers in a telehealth UC practice. Considerations for implementing a process for increasing primary care referrals in other settings would likely differ. It is also possible that engagement with both patients and providers may differ due to seasonal differences in UC practice and patient volumes. Additionally, the patient population was largely privately insured, Caucasian, and English-speaking. This process may not be generalizable to UC centers serving different or more heterogenous populations. While adoption of this referral process among APCs was high at 8 weeks after initiation, it is unclear if this rate of referral placement will change at subsequent follow-up intervals.

Conclusion

This QI initiative dramatically increased the referral rate from an urgent care telemedicine service line to primary care from 8% to 93% over an 8-week implementation period. A standardized QI project design format (Plan-Do-Study-Act) was used. Periodic tests of change were used to keep clinicians engaged, and there was a high level of provider acceptance of the implementation of this process. Despite this significant increase in rates of PCP referral placement, only 31% of patients receiving a referral made a PCP appointment. ■

Ethics Statement

QI activities were conducted with patient and provider informed consent. This project did not secure external funding. The organization's IRB provided a waiver of the project as it was a QI initiative rather than human subjects research.

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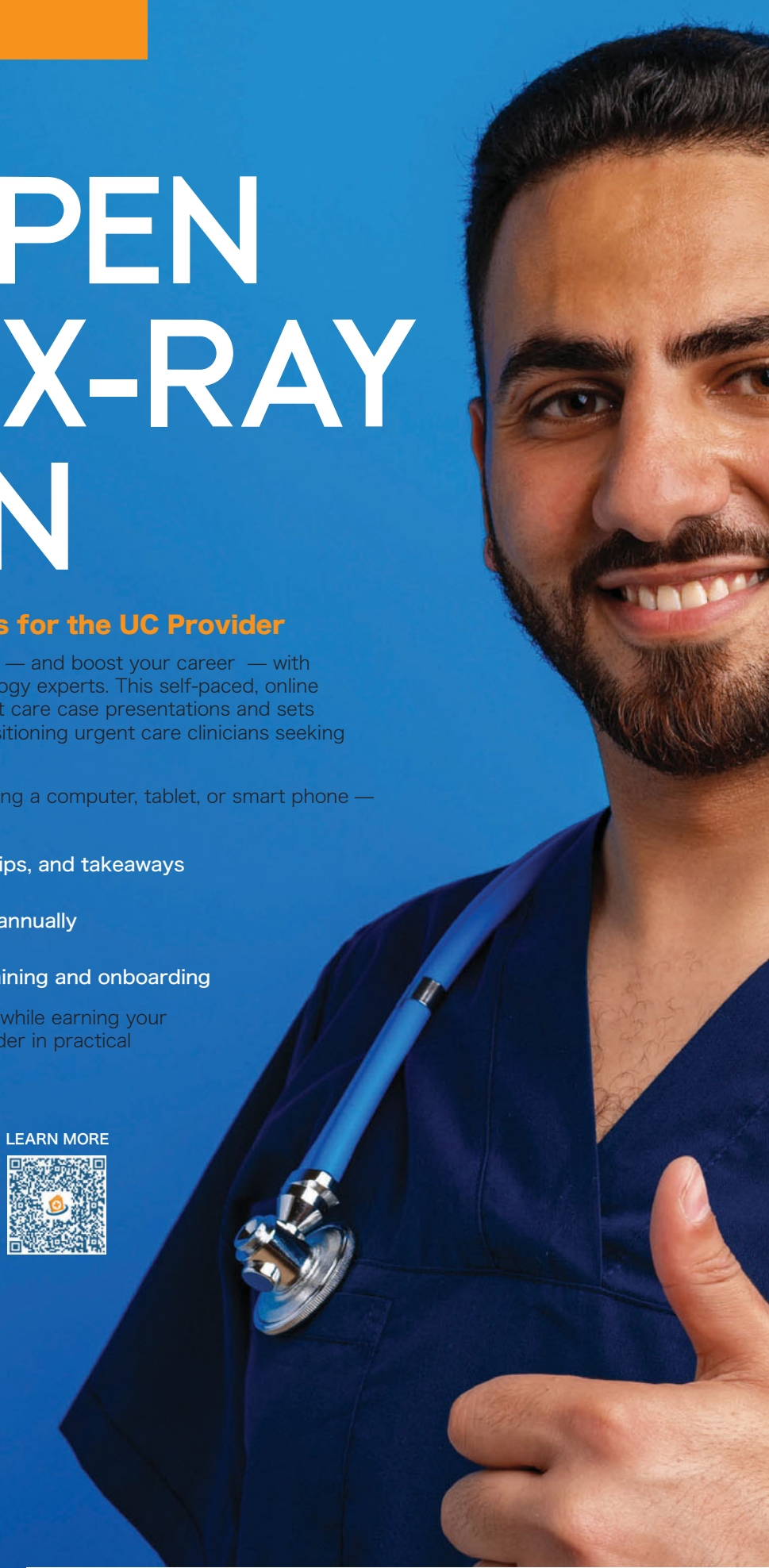

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CLINICAL CHALLENGE: CASE 1

Challenge your diagnostic acumen: Study the following x-rays, electrocardiograms, and photographs and consider what your diagnosis might be in each case. While the images presented here are authentic, the patient cases are hypothetical. Readers are welcome to offer their own patient cases and images for consideration by contacting the editors at editor@jucm.com.

12-Year-Old With Facial Trauma

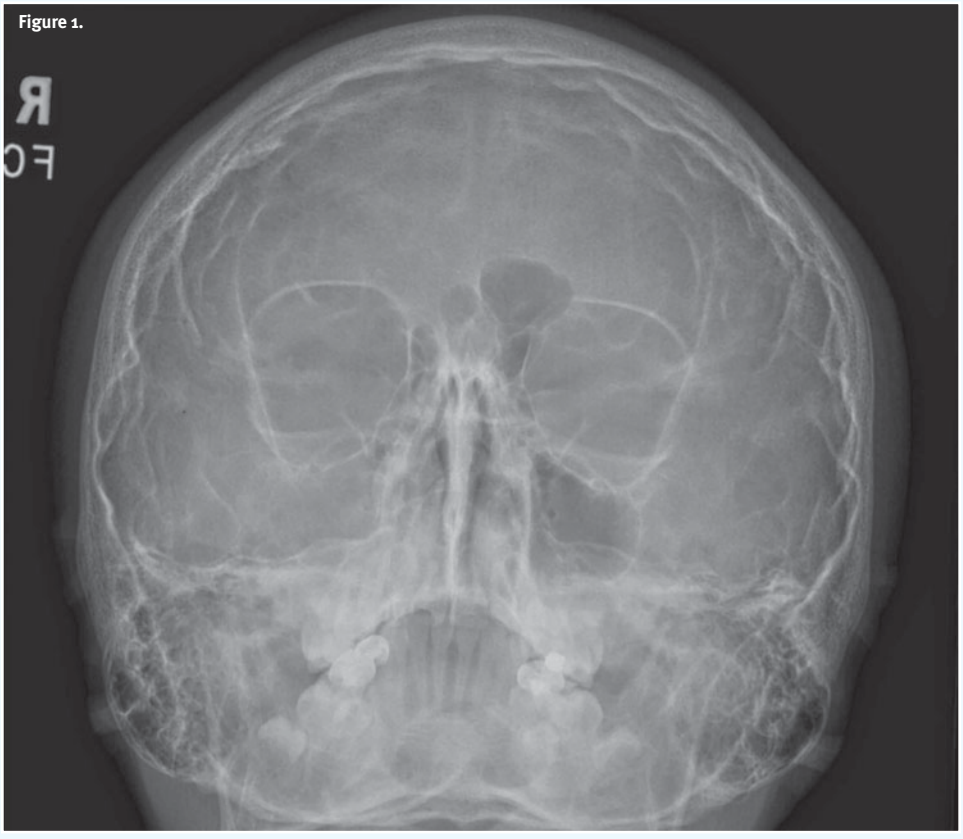
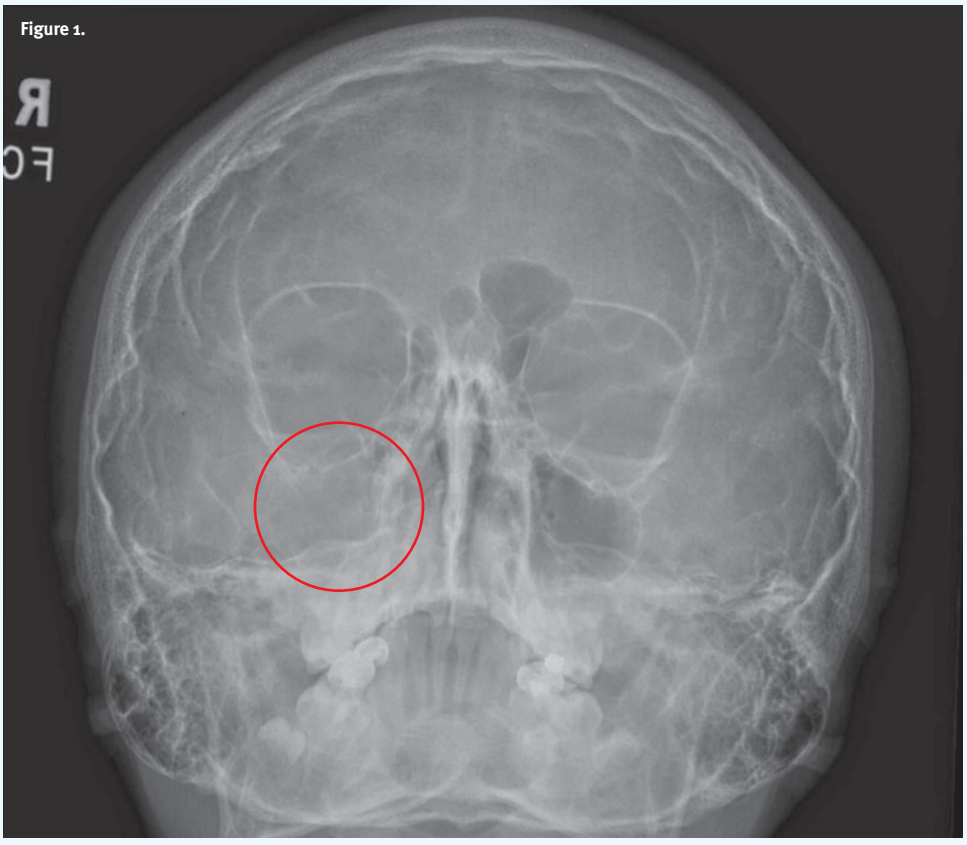


Figure 1.

A 12- year-old male presents to urgent care with his mother complaining of facial pain. The patient experienced a trip-and-fall accident at home. He landed on a carpeted floor and now complains of facial pain.

View the image taken (occipitomental/Waters view) and consider what your diagnosis and next steps would be. Resolution of the case is described on the following page.



Differential Diagnosis
- Orbital fracture
- Sinus opacity
- Maxillary sinus fracture
- Nasal fracture

Diagnosis
The correct diagnosis is sinus opacity, as this x-ray demonstrates opacification of the right maxillary sinus with loss of the lateral sinus wall outline. Ultimately, it was discovered that this patient had a mass eroding the lateral sinus wall. Sinus opacity can be caused by many diseases including orbital floor/wall trauma, mucocele, neoplasm, and sinonasal polyposis.

What to Look For
- Clinically, look for pain, swelling, and tenderness over the affected sinus (maxillary, ethmoid, or sphenoid)
- On x-ray, loss of the air in the sinus or an air-fluid level within the sinus is present
- Maxillary sinus is the most prominent on x-ray; ethmoid and sphenoid sinuses are difficult to evaluate on plain radiography

Pearls for Urgent Care Management
- Unilateral maxillary sinus opacification is usually inflammatory in nature
- However, due to the varied causes, additional imaging (ie, CT sinus) is warranted for further evaluation

Acknowledgement: Images and case provided by Experity Teleradiology (www.experityhealth.com/teleradiology).

53-Year-Old With Spreading Rash


Figure 1.

A 53-year-old man presents to urgent care concerned about a spreading rash underneath his arms for the past 3 weeks. He initially thought it was an allergic reaction to a new deodorant, but the rash persisted after stopping the deodorant. The rash is not itchy. The patient has a history of type 2 diabetes. On examination, a broad, well-demarcated, thin, scaly plaque is seen extending from the lateral chest over the axilla to the upper arm.

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

Figure 2.

Differential Diagnosis

- Acanthosis nigricans
- Erythrasma
- Inverse psoriasis
- Tinea corporis

Diagnosis

The correct diagnosis in this case is erythrasma. Erythrasma is a common, superficial bacterial infection caused by *Corynebacterium minutissimum* and may be acute or chronic. It is more common in diabetic patients, immunocompromised patients, obese patients, and older patients. It is also more common in regions with high humidity.

What to Look For

- Distinct, superficial hyperpigmented or erythematous patches localized to intertriginous areas, especially of the axillae, genitocrural crease, and interdigital web space of the toes
- Discoform is a rare variant with round plaques not in the intertriginous areas (as above)
- Lesions are often asymptomatic, although pruritus may be present, especially when it affects the genitocrural region
- Wood's lamp exam demonstrates coral-red fluorescence

Pearls for Urgent Care Management

- First line treatment is topical antibacterial agents including clindamycin or erythromycin
- The topical imidazole antifungal also has activity against *C. minutissimum*
- Extensive erythrasma may require oral clindamycin or erythromycin

Acknowledgment: Image and case presented by VisualDx (www.VisualDx.com/jucm).

CLINICAL CHALLENGE: CASE 3

18-Year-Old With Chest Pain

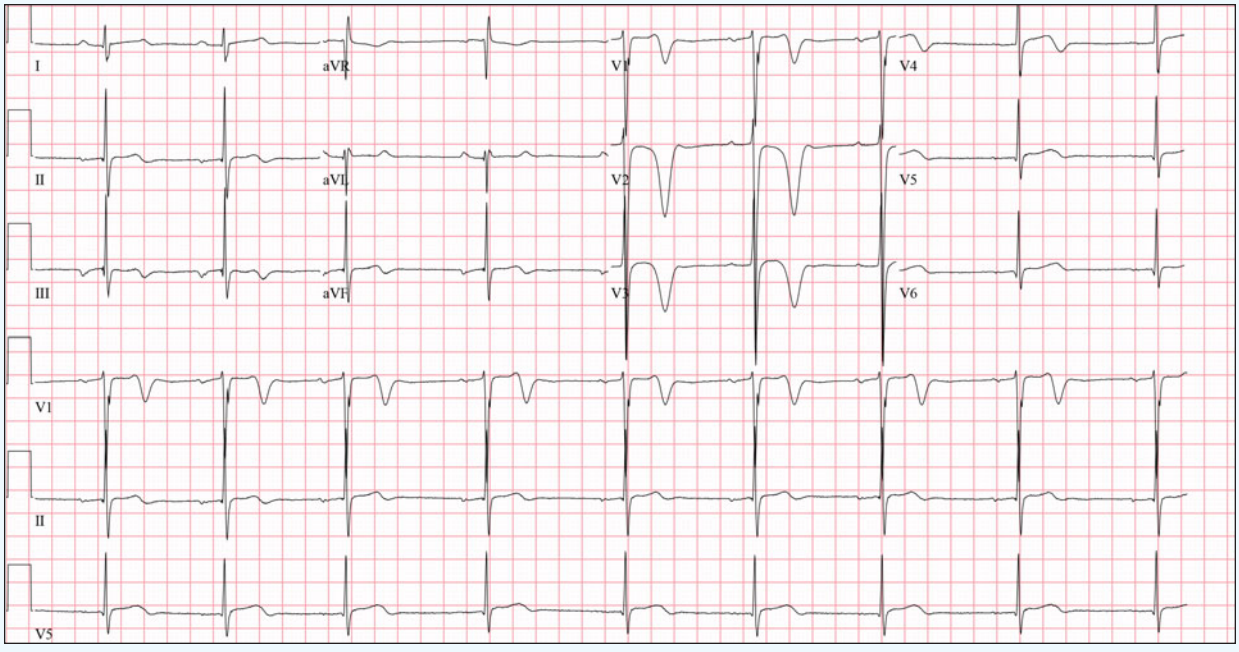


Figure 1: Initial ECG

An 18-year-old male presents with chest pain with coughing for one day. The patient has no known medical history.

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

Case presented by John McCarthy, MD, PGY3 resident at UTHealth Houston.

Case courtesy of ECG Stampede (www.ecgstampede.com).

ECG STAMPEDE

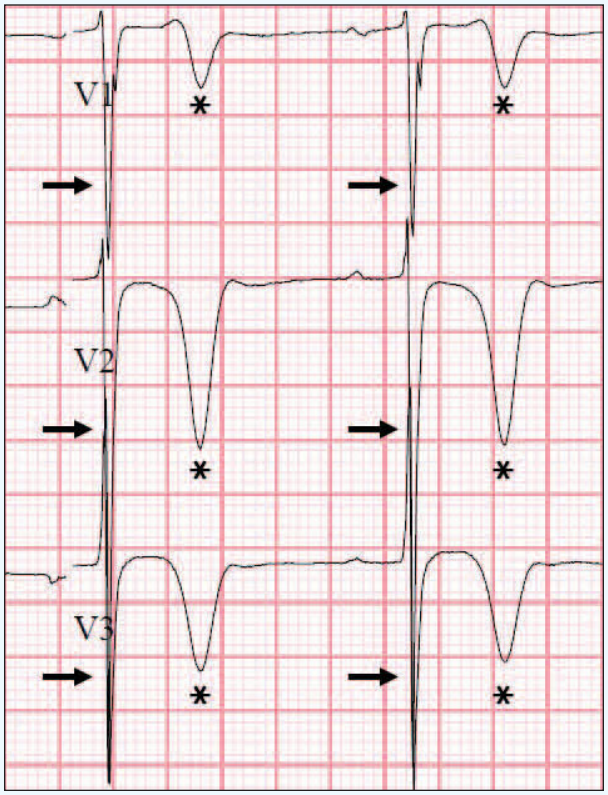


Figure 2. Symmetric T-wave inversions (asterisks) and large QRS complexes (arrows) in the precordial leads V1 through V3.

Differential Diagnosis

- Wellens syndrome
- Hypokalemia
- Subarachnoid hemorrhage
- Persistent juvenile T-wave pattern
- Hypertrophic cardiomyopathy

Diagnosis

The diagnosis is hypertrophic cardiomyopathy. The ECG reveals sinus bradycardia with a rate of 54 beats per minute. There are impressive, symmetric T-wave inversions in the anterior precordial leads V1 through V4 and large QRS complexes in V1 through V3.

Hypertrophic cardiomyopathy (HCM) is the most common cause of sudden cardiac death in individuals under 40 years of age.[1] It's not uncommon to see repolarization abnormalities like the ones seen here (**Figure 2**). Common ECG findings include large QRS complexes of left ventricular hypertrophy, T wave inversions (especially in lateral leads), and narrow, "dagger" Q waves in the lateral leads (I, aVL, V5, V6).[2,3] Symmetric T-wave inversions in the precordial leads is suggestive of apical HCM, although this patient had septal hypertrophy (**Figure 3**).

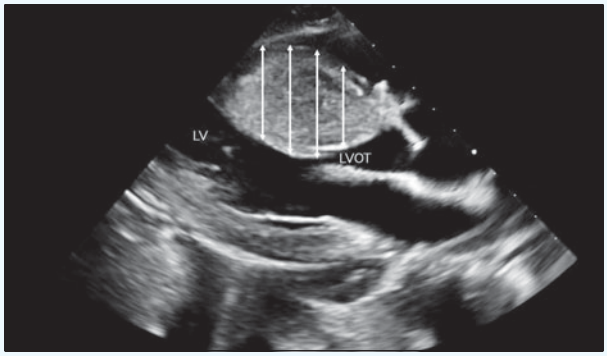


Figure 3. The patient's echocardiogram showing septal hypertrophy (white arrows); LV, left ventricle; LVOT, left ventricular outflow tract.

Physical exam may show the classic finding of a harsh crescendo-decrescendo mid-systolic murmur best heard at the lower left sternal border, which becomes louder when ventricular volume is low (ie, with Valsalva maneuver or going from squatting to standing).

HCM is characterized predominantly by left ventricular hypertrophy in the absence of another explanatory cardiac, systemic, or metabolic disease state. Nearly any pattern of wall thickening can be present, with the anteroseptal most affected.[2] Disease severity depends upon the exact location of the thickening, the amount of the thickening, and the degree of obstruction to left ventricular outflow that the thickening causes.

If syncope or other symptoms suggesting a possible life-threatening dysrhythmia are present, transfer to a higher level of care is warranted.

What to Look For

- ECG findings of HCM include large QRS complexes of left ventricular hypertrophy, T wave inversions, and narrow, "dagger" Q waves in the lateral leads

Pearls for Initial Management, Transfer

- Patients with possible HCM and syncope should be transferred to a cardiac-capable facility
- Limit tachycardia to allow left ventricular filling. Beta blockers or non-dihydropyridine calcium channel blockers may be warranted while arranging transfer.

References

1. Semsarian C, Ingles J, Maron MS, Maron BJ. New perspectives on the prevalence of hypertrophic cardiomyopathy. *J Am Coll Cardiol*. 2015;65(12):1249-1254. doi:10.1016/J.JACC.2015.01.019
2. Ommen SR, Mital S, Burke MA, et al. 2020 AHA/ACC Guideline for the Diagnosis and Treatment of Patients With Hypertrophic Cardiomyopathy: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *J Am Coll Cardiol*. 2020;76(25):e159-e240. doi:10.1016/J.JACC.2020.08.045
3. Wagner GS, Strauss DG. *Marriott's Practical Electrocardiography*. 12th ed. Lippincott Williams & Wilkins; 2014.

How to Survive a Payer Review

Benjamin Barlow, MD; Phyllis Dobberstein, CPC, CPMA, CPCO, CEMC, CCC

One of the biggest challenges facing urgent care operators is increased scrutiny in the form of payer reviews. More clients than ever are facing these administrative and financial burdens. Compounding the issue is that urgent care clinicians often struggle to understand coding guidelines and how to document in a way that shows their medical decision making, which is vital in care and in payer reviews.

Prepayment Reviews

Nationally, we are seeing prepayment reviews on current claims. Prepayment reviews occur when a practice's claims data is analyzed by the payer, resulting in a specific provider being identified as an outlier. For example, Dr. Jones is billing more level 4s than other providers of the same specialty in her area.

Practices are notified which provider and codes will require a review prior to adjudication of the claim by letter, indicating the date the prepayment review takes effect. Claims for the provider whose codes are under review require the medical record be included at the time of initial claim submission. Failure to submit the medical records will result in a claim denial and further delay in payment.

Many of these prepayment reviews are unofficial. This means there is no specific threshold of accuracy to reach before being removed from prepayment review (eg, 500 claims with an accuracy of 95%). Thus, the removal from prepayment review is subjective to the reviewer. Payers routinely requesting medical records are UnitedHealthcare, Elevance (formerly Anthem), Wellmark (via Optum), Blue Cross California, MDWise, CareSource, and Medical Groups in California. Providers in California, Indiana, and Illinois have been affected particularly hard.

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Postpayment Reviews

Postpayment reviews are routine actions by a payer. Medicare or Medicaid managed care products are required to do a review of claims for the Centers for Medicare & Medicaid Services (CMS) or your state Medicaid program to verify the payer is adjudicating the claims correctly. Dates of service will fall in the prior year or even earlier. The payer may ask for monies back if they determine the coding was incorrect. For government payers, the amount may be extrapolated to your entire volume of claims for that payer resulting in large refund requests. Postpayment reviews come in the form of a letter with a listing of claims for which the practice must submit records.

These reviews are outsourced to cost recovery companies like Cotiviti or MCMC. Clients have reported that Cotiviti is specifically targeting urgent cares. This is due to the increased volume during the public health emergency when urgent cares were often the only practices willing to see COVID-19 patients. Often, they question services performed in drive-up clinics.

It is important to review these claims line by line and address their rationale for not allowing the claim. Our team at Experity has reported the following errors:

- Utilizing the 1995 guidelines for claims submitted in 2021 and after. The reviewer incorrectly stated that the only change was to the time requirements.
- Incorrectly counting data reviewed by excluding in-house labs or send-out labs.
- Downplaying the seriousness of COVID-19 in prior years. According to the National Center for Health Statistics, COVID-19 was the 3rd leading cause of death in 2020 and 2021.[1]
- Misinterpreting the CMS guidance on use of CPT 99211 for specimen collection.

Keep in mind when a request is made for repayment of previous reimbursement, it can become a matter of negotiating. Payers will ask for a refund of the full amount of the claim instead of the difference between what was coded and what they think it should have been. In the case of extrapolation, this can result in refund requests in

the 6-figure range. When requesting a redetermination, it can be helpful to make a counteroffer based on your review of their findings.

Medical Decision Making

Current coding guidelines focus heavily on the provider's medical decision making. This makes it more important than ever for documentation to reflect the full scope of the problems the provider is evaluating at the visit.

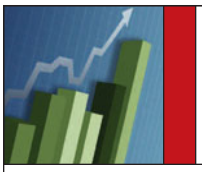
Providers are taught in medical training to form a list of diseases, a differential diagnosis, based on the patient's history, past medical history, and exam. That differential diagnosis is then refined with testing and the most probable diagnosis is then selected as the patient's final diagnosis. If a provider only documents their final diagnosis, it is impossible for auditors to know what the provider was thinking and what problems they addressed. This is why it is a best practice for providers to clearly document the decision-making process they went through during the patient's evaluation. This process is not only critical for coding compliance and accuracy but aligns with excellent patient care. Clinicians learn how to from a differential diagnosis early in their training because if a clinician is not thinking about it, they may miss it.

Organizations wishing to improve should organize and document a standard process of providing specific recommendations and education to the clinicians providing the care. Have a coding champion that interacts with the providers and helps them improve based on the feedback from your center's billing team is critical for improvement.

Often clinicians don't know what they don't know regarding coding guidelines. Education and helping them understand current guidelines will improve the whole team's ability to code claims accurately and streamline the flow of claims. Implementing this education and review process will drastically decrease the chance of prepayment reviews. If an organization does receive a prepayment review and they don't make changes, the review may be extended, causing more payment delays. Always appeal the claims that you believe are correct but also focus on improving your organization's documentation through an organized training program.

Reference

1. Centers for Disease Control and Prevention website. National Center for Health Statistics COVID-19 Death Rate and Resources. https://www.cdc.gov/nchs/nvss/covid-19.htm Accessed December 21, 2023.



DEVELOPING DATA

Robust Urgent Care De Novo Growth Continues

Alan A. Ayers, MBA, MAcc

Table 1. Year-Over-Year Change In The Number Of De Novos By Health System Vs. Non-Health System

	2022 to 2023(F)	2021 to 2022	2020 to 2021	2019 to 2020	2019 to 2023(F)
Total De Novos	**-5%**	**20%**	**6%**	**-4%**	**16%**
Health System	-3%	3%	-3%	-12%	-23%
Non-Health System	-6%	30%	-27%	-62%	49%

Table 2. Year-Over-Year Change In The Number Of De Novos By Size

	2022 to 2023(F)	2021 to 2022	2020 to 2021	2019 to 2020	2019 to 2023(F)
Single Unit Operator	-9%	41%	-3%	-12%	9%
2 to 4 Unit Operator	-5%	61%	-27%	-62%	-57%
5 to 9 Unit Operator	-17%	46%	-19%	-10%	-12%
10+ Unit Operator	1%	-1%	32%	240%	347%

F=Forecasted

The urgent care industry continues to add de novo centers, according to data from Experity and National Urgent Care Realty. Although de novo growth slowed in 2023 by 5%, 2023 de novos are still *16% higher* than 2019, the last pre-pandemic year. In addition to continued overall growth of the industry, the data indicates structural changes in *who* is opening de novos.

A "de novo" urgent care refers to a center that did not previously exist. To clarify, there's a difference in the growth rate of urgent care rooftops, which nets de novos against closures, and the growth rate of de novos. The tables above deal with the latter—a year-over-year comparison of urgent care de novos.

Table 1 demonstrates that health system de novos (including hospital joint ventures) are down 3%, and non-health system de novos are down 6%. However, compared to 2019, health system de novos are down 23%, whereas non-health system de novos are up 49%.

Table 2 demonstrates that growth in the time period from 2021 to 2022 was led by 2-4 center operators, however, when comparing their growth across the longer time frame, the 2-4 unit operators have sustained a decrease in de novo sites of 57%. Meanwhile, 10+ unit operators have seen a 347% increase in de novos.

Independent, single location sites follow "enterprise" with a 9% increase in de novos compared to 2019. ■

Alan A. Ayers, MBA, MAcc is President of Experity Consulting and Senior Editor of *The Journal of Urgent Care Medicine*.

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