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CLINICAL **cme**

Dizziness: Often Benign—but When May a Dangerous Diagnosis Be Lurking?

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It's About Time: Repeat Vitals and Long Waits

■ GUY MELROSE, MB, ChB

It was with great interest that I read Dr. Joshua Russell's opinions on the value of repeating vital signs in the urgent care setting in the November 2022 issue of *JUCM*.¹ Having stated that this does not seem to be common practice amongst his peers, he went on to highlight a couple of very reasonable scenarios in which he recommended repeating vital recordings.

Importantly, he alluded to the often-underappreciated phenomenon of regression to the mean as justification for this practice.

I agree with Dr. Russell in his assertion that repeating vitals is critical for identifying unstable patients and is, therefore, an essential skill for ensuring patient safety.¹ In fact, it is my belief that one of the core attributes that distinguishes urgent care as a unique specialty is our ability to identify the patient who needs further care, before it becomes obvious.

As we look to sieve through the slightly unwell or injured members of the population to find these patients, we are forced to do so without access to a complete laboratory or advanced imaging which one might find in an emergency department.

Moreover, we approach patient evaluation and work-up always with consideration of the costs of the unnecessary referral. These errors in judgment cost not only the patient, but the clinic and health system at-large as well.

We must balance this with the anxieties that naturally arise when considering the prospect of missing important diagnoses and any subsequent negative outcomes which may ensue—both for the patient and for us as we face the possibility of an investigation of our practice.

There is an art and skill to being able to utilize good history-taking, sound clinical examination, and clinical



reasoning while simultaneously remaining aware of the ever-growing queue in the waiting room. Vital signs are quick, cheap, and powerful tools available to us all, and we should not be overlooking them in identifying the deteriorating patient.

Quinten, et al demonstrated the association between vital signs and clinical outcomes among ED patients. Building on this, Candel, et al showed that this predictive power of abnormal vitals for impending poor outcomes increases with increasing patient age.^{2,3} So, we'd all be wise to perform more vital sign checks in urgent care to increase the sensitivity of our sieve for catching a catastrophe on the horizon.

In addition to the scenarios Dr. Russell identified as opportunities to improve clinical assessment through vital rechecks, my mind also moved to another. Allow me to elaborate.

The recent winter here in Aotearoa, New Zealand has been a tough one for UC clinicians. In addition to the increased volumes expected with the large numbers of unwell people, COVID has also impacted the healthcare workforce through both clinician illness and that of their families. With similar experiences in general practice and EDs, wait times have skyrocketed throughout our centers. While historically, some patients may have waited up to 90 minutes, at peak winter this wait ballooned to over 4 hours in some places during the most recent surge (an unprecedented experience in New Zealand).

These situations are an understandable consequence of UC centers' role in providing open-access care for the



Guy Melrose, MB, ChB is a practicing urgent care physician and a member of the Royal New Zealand College of Urgent Care's Executive Committee.

“This is the critical moment of urgent care: when we decide if this is the patient who might very well have a disastrous, but preventable, outcome looming.”

entire community they serve. However, such wait times clearly are not ideal.

Given the reality of the world in which we currently find ourselves, we must not forget that like the stock market, vitals can and will fluctuate continuously. Consider this common scenario: A patient had their vitals recorded at triage and the clinician sees them a while later—perhaps even after a few hours. This is where we must consider repeating those vitals. To say that person is afebrile, or normotensive based on old data, risks missing a deteriorating picture. We want to assess the current version of the patient sitting in front of us and not the historic version of themselves who checked in several hours earlier.

In addition to the scenarios outlined in Dr. Russell’s ed-

itorial, I would propose that we should all be repeating vitals on patients whose last (or only) set of vitals was performed a while ago. How long? Well, this will depend on the presenting complaint, how the patient appears when you’re evaluating them, and on what your gut is telling you.

To be more specific, a reasonable rule of thumb might be for any patient who has waited longer than an hour, particularly if they have had some therapy administered after triage, to have their vitals retaken by the clinician during their physical exam. Cheap, quick, and easy—there’s no real excuse not to recheck vitals, especially after there’s been a long delay since triage. This is, after all, the critical moment of urgent care: when we decide if this is the patient who might very well have a disastrous, but preventable, outcome looming.

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3. Candel BG, Duijzer R, Gaakeer MI, et al. The association between vital signs and clinical outcomes in emergency department patients of different age categories. *Emerg Med J.* 2022;39(12):903-911.



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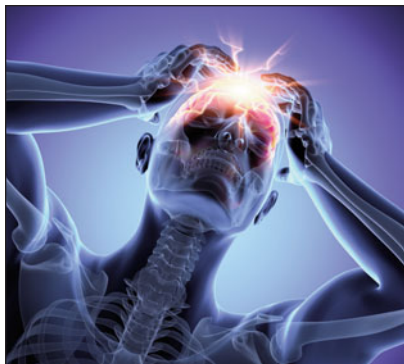
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Most often, causes of vertigo are harmless, such as benign paroxysmal position vertigo, labyrinthitis, and psychogenic causes. Failing to consider and assess for those that are far from benign, however, could be a tragic mistake.

Cody McCoy, DO and Michael Weinstock, MD

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17 Atypical Chest Pain Reveals Rare T-Cell Lymphoblastic Lymphoma



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Aimy Patel, MD; Brian R. Lee, MPH, PhD; Amanda Montalbano, MD, MPH; and Amanda Nedved, MD

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“Triage” is viewed as an essential step in acute care settings. It means something entirely different in urgent care than it does in the ED, however—which raises the question of whether it belongs in the urgent care vocabulary at all.

Alan Ayers, MBA, MAcc

ORIGINAL RESEARCH

32 A Comparison of Chief Complaints, Specific Diagnoses, and Demographics of Pediatric Urgent Care Visits Before and During the COVID-19 Pandemic: A Retrospective Study



You may have perceived this yourself, but now there are data confirming that COVID-related lockdowns had a profound affect on presentations to pediatric urgent care centers.

Zaharoula A. Viennas, MD; Julie Martin, MAEd, MMS, PA-C; Benjamin Klick, MD; Tammy Speerhas, DNP, FNP-C, RN, CEN, CME; Turaj Vazifedan, DHSc; Danielle Millspaugh, DNP, FNP-C; Jennifer Ferris, MD; Margret Bedle, MD; Lauren Paluch, DMSc, PA-C; and Theresa Guins, MD

IN THE MARCH ISSUE OF JUCM

A 15-year-old boy presents with pain in his right arm after falling off a bicycle—or so he says. Something doesn’t seem right, though. For starters, he’s there by himself, with no parent in sight. Is this simply a latchkey kid, or a victim of child abuse...? If you didn’t think of human trafficking as a possibility, then it may be time to acquaint yourself with the red flags that should raise suspicion. The March issue of JUCM will present an article that defines them, while also providing a framework for treating immediate medical concerns and knowing how to refer and safely provide resources for suspected cases.

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

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People experience dizziness all the time. When *patients* complain of dizziness to the extent they feel they need urgent care, on the other hand, attention is warranted—especially given the fact that a minority of nonbenign causes can be life-threatening. The process of working through the possibilities to arrive at the diagnosis is at the center of *A Cause of Dizziness Not to Be Missed* (page 13). In it, **Cody McCoy, DO** and **Michael Weinstock, MD** map out the essential steps in evaluating the patient with dizziness in the urgent care setting.

Dr. McCoy is a resident physician in Internal Medicine at Adena Regional Medical Center in Chillicothe, OH, where Dr. Weinstock practices emergency medicine and is director of research. He's also a professor of emergency medicine adjunct in the Ohio State University Department of Emergency Medicine; medical director, Ohio Dominican University Physician Assistant studies program; and senior editor, clinical content, *JUCM*.

Chest pain is another presentation with far-reaching implications. The mere mention of it can provoke an instinct to immediately refer to the emergency room. That doesn't always serve the patient, well, however, and can feed into acuity degradation in urgent care. As we see in the case described in *Atypical Chest Pain Reveals Rare T-Cell Lymphoblastic Lymphoma* (page 17), evaluation in the urgent care center can be the quickest route to proper care whether that's on site or elsewhere. We appreciate **Tushar Menon, MD** (Abrazo Health Network Internal Medicine Residency Program), **Sahil Kapur, DO** (St. Rita's Medical Center Internal Medicine Residency Program), **Ameera C. Mistry, MD**, and **David M. Boyd, MD** (Blindspot Medical), giving us the opportunity to share it with you.

Patient experience has become a buzz phrase in recent years. And what a patient “experiences” can enhance both their subjective feeling about their encounter with your urgent care center and their prospects for positive outcomes. This holds true regardless of the age of the patient, so be sure to read *A Retrospective Study on the Impact of Increased Value-Add Time on Patient Experience in Pediatric Urgent Care Centers*, starting on page 32, by **Aimy Patel, MD**; **Brian R. Lee, MPH, PhD**; **Amanda Montalbano, MD, MPH**; and **Amanda Nedved, MD**. The authors are all affiliated with Children's Mercy Kansas City and the University of Missouri-Kansas City School of Medicine.

This is a rich issue for original research concerning pediatric urgent care. Our second article in that vein, *A Comparison of Chief Complaints, Specific Diagnoses, and Demographics of Pediatric Urgent Care Visits Before and During the COVID-19 Pandemic: A Retrospective Study* (page 20) uncovered trends that could be instructive for both urgent care providers and parents during periods when children are confined, whether

that be during the social distancing at the height of the pandemic or getting snowed in or isolated by natural disaster. The authors are **Zaharoula A. Viennas, MD**, Department of Pediatrics, Eastern Virginia Medical School and Children's Hospital of the King's Daughters (CHKD) Urgent Care Services; **Julie Martin, MAEd, MMS, PA-C**, CHKD Urgent Care Services; **Benjamin Klick, MD**, Department of Pediatrics, Eastern Virginia Medical School, CHKD Urgent Care Division; **Tammy Speerhas, DNP, FNP-C, RN, CEN, CME**, Department of Pediatrics, Eastern Virginia Medical School, School of Nursing, Old Dominion University, and CHKD Urgent Care Services; **Turaj Vazifedan, DHSc**, Department of Pediatrics, Eastern Virginia Medical School and CHKD; **Danielle Millspaugh, DNP, FNP-C**, CHKD Urgent Care Services; **Jennifer Ferris, MD**, CHKD Urgent Care Services; **Margret Bedle, MD**, CHKD Urgent Care Services; **Lauren Paluch, DMSc, PA-C**, Eastern Virginia Medical School Physician Assistant Program; and **Theresa Guins, MD**, Children's Specialty Group Division of Urgent Care, CHKD Urgent Care Services, and Eastern Virginia Medical School.

Whether the setting is pediatric urgent care, general urgent care, or a hospital emergency room, the ability to assess a patient's needs is the first step toward providing the right care. That means something very different in the urgent care center vs the ED, however, as **Alan Ayers, MBA, MAcc** points out in *The 'Triage' Misnomer in Urgent Care* (page 29). Mr. Ayers is president of Experity Consulting and senior editor, practice management for *JUCM*.

Vital signs are part of the process across the board. The question of if, or when, they should be repeated is controversial, as we learned after Editor-in-Chief Joshua W. Russell, MD, MSc, FCUCM, FACEP addressed the subject in the column he wrote for our November issue. Reader and *JUCM* supporter **Guy Melrose, MB, ChB** offered his perspective on the matter in *It's About Time: Repeat Vitals and Long Waits* (page 1). Dr. Melrose is an urgent care physician and a member of the Royal New Zealand College of Urgent Care's Executive Committee.

We thank another member of the international community, **Ivan Koay MBChB, MRCS, FRNZCUC, MD**, for keeping us up to date on urgent care-relevant content published elsewhere, recently. You can read his summaries in *Abstracts in Urgent Care* (page 38). Dr. Koay is an urgent care physician; medical lead, Ealing Urgent Care Center, London, UK; RNZCUC examiner; and head of faculty na hÉireann Royal New Zealand College of Urgent Care.

Finally, Experity COO **Monte Sandler** provides essential advice on what to do—and not to do—when you're subjected to payer reviews. *Revenue Cycle Management* starts on page 47.

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Say You Love Me

■ LOU ELLEN HORWITZ, MA

Why is it so hard to ask for what we need? Even when asked, we usually state what we want vs what we need. Maybe it's because we haven't asked ourselves in a while, and we don't actually know anymore.

The problem is that the people who asked us then proceed (with great intentions) to give us what we said we wanted. We remain unfulfilled and they don't understand why.

Ask "consumers" in surveys what they want and they say convenience, speed, accuracy, quality of care. Those are probably all true, but what they *need* is someone to care about what's wrong with them. They need someone to really listen for just a few minutes about what is bothering them. They are sick, or hurt, or their family member or friend is hurt. They don't know what to do on their own and they are scared. Or maybe all they need is reassurance, or a sliver of attention.

And guess what? That's what many professionals in our field actually need to be fulfilled. To provide *care*. Not "care" in the industry sense of it, but care in the caring sense. To care for someone. To take care of them. To show them you care and get all the wonderful feelings that come back when they can see that you do.

We often do a great job tackling the science of healthcare, but not a great job nurturing the art of healthcare. Somewhere along the way something is getting lost, and though we may not be able to name it, we are certainly feeling its absence in our lives.

There's no question that healthcare as an "industry" is frustrating a lot of the time. Systems at the highest level seem designed to get us to crank out diagnoses and treatments and claims and scores and to do it as fast and as cheaply as possible. Shoot, I'm fulfilled just thinking about that, aren't you? What I do know is that there is opportunity here, and we are uniquely poised to take advantage of it.

Urgent Care was the first to think about patient experi-

"We can do this for each other all day—a pat on the back, a smile, a comforting look, a break, a quick note, a laugh, or an apology. It helps the giver and the receiver."

ence and we are still the leaders in it. All the big dollars in healthcare innovations have not been able to touch us yet, and almost none of the innovators are looking at caring for people in person. If what people really need is to feel cared about, we have all the advantages in the world because we have the people right in front of us. We can hold their hands and hand them a tissue and put ice on their swollen ankle. We can see their body language head-to-toe, and show them we care through ours.

Let's be clear: This is not a discussion about technique. This is not about making sure you make eye contact and sit down so that you check patient experience boxes. That's the science. This is about taking a pause and reminding yourself that you are working in Urgent Care because you do care, and that is a very, very good thing.

We can do this for each other all day. A pat on the back, a smile, a comforting look, a break, a quick note, a laugh, or an apology. It helps the giver and the receiver. We can say a genuine thank you because we are face-to-face. We can share our *need* to practice art alongside science and find new ways to do that together.

Now, there are other things I'm supposed to be sharing with you this month!

We will soon have announcements about new online educational programs, including Limited Scope X-ray Training with Control the Dose, our newest Affiliate, and a new project with Hippo Education.

We are thrilled that the 8th Annual Pediatric Urgent Care Conference (PUCC) is joining the 2023 Urgent Care Convention in Las Vegas! It's a fantastic program and we are excited about the collaboration. We've also created a new Revenue Workshop and clinical and leadership case studies, and expanded the hands-on clinics based on your feedback (I hope that what you said you want is also what you need). Registration is open and I can't wait to see you all. ■



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



CONTINUING MEDICAL EDUCATION

Release Date: February 1, 2023
Expiration Date: January 31, 2024

Target Audience

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

Learning Objectives

1. To provide best practice recommendations for the diagnosis and treatment of common conditions seen in urgent care
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

Accreditation Statement



This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Institute for

Medical and Nursing Education (IMNE) and the Institute of Urgent Care Medicine. IMNE is accredited by the ACCME to provide continuing medical education for physicians. The IMNE designates this journal-based CME activity for a maximum of 3 *AMA PRA Category 1 Credits™*.

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A Cause of Dizziness Not to Be Missed (page 13)

1. The Dix-Hallpike maneuver:

- a. Is sufficiently sensitive to confirm diagnosis of benign paroxysmal positional vertigo (BPPV)
- b. Is sufficiently specific to rule out BPPV
- c. Is both sensitive and specific enough to confirm and rule out BPPV
- d. Is neither sensitive nor specific enough to exclude or confirm the diagnosis of BPPV

2. Management of vertebral artery dissection may include:

- a. Medical therapy
- b. Surgical therapy
- c. Neither medical therapy nor surgical therapy
- d. Either medical or surgical therapy, depending on patient characteristics and the location and extent of the dissection

3. Suspicion of a concerning etiology should be higher in patients:

- a. Presenting with *constant* vertigo
- b. Who have a history of head trauma
- c. Who have a history of acute coronary syndrome
- d. Taking medications that could cause vertigo

Atypical Chest Pain Reveals Rare T-Cell Lymphoblastic Lymphoma (page 17)

1. T-cell lymphoblastic lymphoma (T-LBL) accounts for:

- a. 2% of all lymphoblastic lymphomas (LBL)
- b. 24% of all LBLs
- c. 51% of all LBLs
- d. 90% of all LBLs

2. T-cell lymphoblastic lymphoma comprises approximately what proportion of non-Hodgkin's lymphoma cases?

- a. 2%
- b. 24%
- c. 51%
- d. 90%

3. In the patient described in this case report:

- a. GERD is unlikely, given the nature and duration of pain
- b. Musculoskeletal pain is unlikely due to the lack of reproducible pain and location
- c. Lack of history of connective tissue disorders, chronic hypertension, or severe, tearing chest pain make aortic dissection less likely
- d. All of the above

The 'Triage' Misnomer in Urgent Care (page 29)

1. In urgent care, as opposed to a hospital emergency room, triage starts with:

- a. Registration at the desk
- b. Vital signs
- c. Joining "the line" to be seen in sequence
- d. None of the above reflect urgent care triage

2. Under what circumstances is it acceptable for nonclinical staff, such as a medical receptionist, to evaluate a patient's condition?

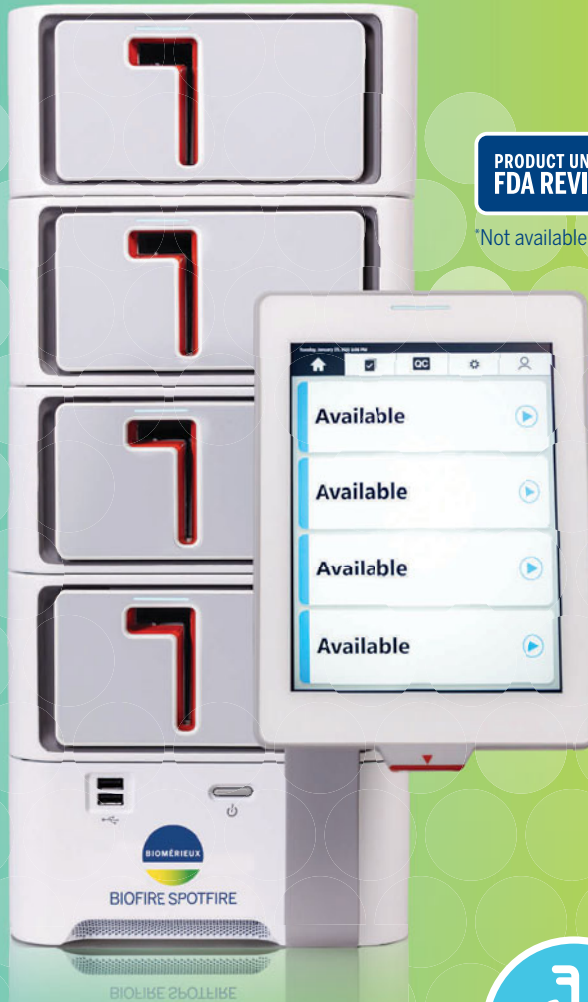
- a. When doing so will alleviate wait times and support patient throughput
- b. When the provider has provided explicit directions
- c. When that evaluation is limited to vital signs
- d. Never

3. Patients should be flagged as needing emergent, not urgent care, with which of the following?

- a. Syncope
- b. Changes in vision or difficulty speaking
- c. An open wound
- d. Obvious need for x-ray

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A Cause of Dizziness Not to Be Missed

Urgent message: Most cases of vertigo are benign. This includes etiologies such as benign paroxysmal position vertigo, labyrinthitis, and psychogenic causes. However, there are serious, “can’t miss” etiologies which should be considered during the urgent care evaluation of a dizzy patient.

CODY MCCOY, DO and MICHAEL WEINSTOCK, MD

Citation: McCoy C, Weinstock M. A cause of dizziness not to be missed. *J Urgent Care Med.* 2023;17(5):13-16.

Key words: dizziness, vertigo, disequilibrium, BPPV

Introduction

Dizziness presents a challenging complaint to accurately diagnose, not only because of the wide array of potential diagnoses, but also due to the imprecise description of symptoms including “the room spinning” (as is typical for vertigo), light-headedness, presyncope, or disequilibrium.

Vertigo is frequently caused by benign paroxysmal positional vertigo (BPPV) but may be from labyrinthitis following an upper respiratory infection or, more seriously, from a cerebellar or brainstem stroke, mass, or bleed.

Disequilibrium may be present due to a musculoskeletal or cerebellar disorder or in patients with Parkinson’s disease.¹

Presyncope occurs when moving from a seated to standing position and may be associated with orthostatic hypotension.²

Psychiatric conditions, such as panic disorder, may be associated with transient lightheadedness, especially when hyperventilation occurs due to the consequent respiratory alkalosis.

Brief Clinical Case

An 86-year-old man with a history of hypertension and



carotid artery stenosis presented with a chief complaint of imbalance, which he stated was present upon waking that morning and had been constant since. The sensation of imbalance did not change with head movements. No lateralizing neurological symptoms were present, but he did note feeling mild, vague confusion. He specifically denied numbness or weakness of extremities, slurred speech, facial droop, fever, and cough.

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“BPPV can be diagnosed easily with a bedside test and is highly responsive to treatment with the Epley or other particle repositioning maneuvers.”

His medications included hydrochlorothiazide, lisinopril, and atorvastatin.

Physical Examination

Vital signs were normal except for a blood pressure of 155/91. General appearance was normal for age. Lungs were clear bilaterally. Cardiac exam was normal with a regular rate and rhythm without murmur. Neurologic exam revealed normal fluent speech and steady gait, complete cranial nerve function was within normal limits, strength and sensation normal in all four extremities, and coordination testing demonstrated normal finger-to-nose testing symmetric bilaterally.

Differential Diagnosis Considerations and Evaluation

Dizziness is a common but nonspecific complaint and can result from a myriad of etiologies ranging from benign to life-threatening. Dizziness is often broadly categorized into either principally *vertiginous* or *lightheadedness/presyncopal in nature*.

While simple, this framework can be problematic as patients commonly cannot define the sensation precisely.

In fact, when patients are asked about dizziness, their answers regarding “spinning or motion” often change from moment to moment. In one study, when asked to pick the “single best descriptor” for their dizziness, 52% of subjects chose a different response when asked the same question 6 minutes later.³

Differential Diagnosis

While the list of differential diagnoses for dizziness is vast, identifying the clear presence of vertigo based on features of the history (eg, sensation of spinning or movement, associated vomiting) or physical exam (eg, ataxia, nystagmus) narrows the differential considerably.

When considering the possible sources of vertigo, it is useful to understand features which distinguish peripheral nervous system (PNS) pathology from central nervous system (CNS) disease.

The importance of distinguishing peripheral vertigo from central vertigo is highlighted by the more emergent causes of central vertigo, as discussed below. The

HINTS exam offers bedside utility to distinguish these two etiologies. The HINTS exam includes the head impulse test, nystagmus test, and test of skew deviation. HINTS exam should be conducted in patients with continuous vertigo, as opposed to those who present with positional vertigo (eg, BPPV).⁴

The head impulse test is conducted by rotating the patient’s head laterally by approximately 20°, then rapidly rotating it back towards midline. Catch-up saccades are indicative of peripheral vertigo, while the absence of catch-up saccades indicates a central etiology.

Peripheral vertigo can be suspected with the presence of contralateral, unidirectional nystagmus.

Conversely, bidirectional nystagmus is indicative of a central cause.

Test of skew deviation is conducted by covering and then uncovering each eye to assess for the presence of vertical adjustment. Absence of vertical adjustment indicates a peripheral cause, while the presence of vertical adjustment is indicative of central vertigo.

Causes of Peripheral Vertigo

Benign Paroxysmal Positional Vertigo (BPPV)

The classic presentation of BPPV is a patient who awakens without dizziness, rolls over, and has a sudden onset of vertigo which is intermittent and positional (for example, when rotating their head).

In BPPV, dizziness is not constant. Diagnostic evaluation may include assessment of gait and reproduction of symptoms with Dix-Hallpike maneuver, though neither positive nor negative findings have sufficient sensitivity and specificity to rule in or rule out this diagnosis. An analysis by Halker, et al found a sensitivity of 79% and specificity of 75% for BPPV.⁵ With consideration of more serious causes, this sensitivity and specificity are not adequate to definitively diagnosis BPPV.

Several factors raised clinical suspicion that this patient’s chief complaint of dizziness was not due to a benign diagnosis such as BPPV.

This patient’s dizziness was not associated with positional change of the head, but was described as constant, not consistent with intermittent dizziness associated with BPPV.

Further, this patient described his dizziness as a sense of imbalance that was not associated with vertigo. He presented as a higher-risk patient, with a PMH including three-drug hypertension, carotid stenosis, and hypercholesterolemia.

Finally, he admitted to not being able to “think clearly” since awakening. BPPV could not be definitively attributed to our patient.

Deep Dive on BPPV

BPPV is the most common cause of vertigo in all clinical settings, including the ED. The condition occurs when otoconia (which normally reside in the utricle) are displaced spontaneously or by trauma or infection into the semicircular canals. As a result, when patients move their head in certain positions, they experience vertigo and nystagmus, sometimes very intense, for less than 2 minutes, often around 20 seconds.

BPPV can be diagnosed easily with a bedside test and is highly responsive to treatment with the Epley or other particle repositioning maneuvers.

Vestibular neuritis is the second most common peripheral cause of vertigo. Sometimes erroneously mislabeled as labyrinthitis by some clinicians, the condition is believed to be caused by a deficit in one of the vestibular nerves. The likely cause is a virus.

The patient develops a prolonged, continuous bout of vertigo that is intense for several days and then resolves over days, weeks, or months. There is no associated ear pain, hearing loss, or tinnitus in vestibular neuritis.

Labyrinthitis, a complication of acute otitis media, is less common than vestibular neuritis but can present in a similar manner, with days of ongoing, continuous vertigo and nystagmus.

Unlike vestibular neuritis, patients with labyrinthitis complain of ear pain, hearing loss, or tinnitus as well as vertigo.

Vestibular neuritis

Vestibular neuritis is thought to be caused by a virus and is a constant vertigo which lasts from days to weeks to months; there is not associated hearing loss, ear pain or tinnitus.⁶

Our patient had a constant vertigo, making this diagnosis a consideration after initial evaluation, but was not able to be differentiated from a more serious cause such as posterior circulation stroke at the bedside.

Labyrinthitis

Labyrinthitis can cause vertigo, typically preceded by a viral infection; the patient did not complain of preceding fever, rhinorrhea, cough, or myalgias and did not complain of ear pain. This diagnosis was unlikely for our patient.⁶

Meniere's disease

Meniere's disease can cause vertigo but is rare compared with the above causes; it is thought to be due to endolymphatic hydrops (a swelling of the labyrinth of the inner ear) and is characterized by sensorineural hearing

“Management of vertebral artery dissection may include medical or surgical therapy. Medical management includes antithrombotic or anticoagulation therapy, with one review demonstrating benefit of medical therapy in blunt cerebrovascular injuries over no treatment.”

loss, a sense of fullness in the ear, and tinnitus; the most useful test is pure tone audiometry.⁷ This is an unlikely diagnosis for our patient as he did not complain of hearing loss, tinnitus, ear fullness.

Causes of Central Vertigo**Cerebellar or Brainstem Mass or Bleed***Posterior circulation stroke/TIA*

The most feared cause of vertigo is a posterior circulation stroke, more common in patients with increased risk factors as well as with constant vertigo. Of patients with isolated dizziness (no other associated symptoms of stroke), only 0.7% were from a stroke, more common in men, older patients, and those who complained of imbalance.⁸

Multiple medications, including beta blockers and diuretics (which the patient had been taking), may cause symptoms of dizziness. The patient's son, however, also confirmed that the patient seemed confused, which would not be expected to be present with BPPV or with a medication-associated cause of dizziness.

Exploring either of these independently could yield a wide differential, but together they raise concern for a posterior circulation event, such as a stroke, mass, or bleed.

The patient had a known history of carotid stenosis, increasing suspicion for obstructive etiology such as ischemic cerebrovascular accident or (transient ischemic attack).

Other life-threatening causes of dizziness may include arrhythmias, CNS infection, and hypoglycemia.³

The patient had an acute onset of symptoms and no history of unintentional weight loss, making mass less likely. The patient was not anticoagulated and there

was no history of trauma, making bleed less likely. Posterior circulation stroke remained a possibility, especially with the associated confusion, and the decision was made to send the patient for imaging.

Treatment/Outcome

Due to these concerns, the patient had an ED evaluation where stroke was considered and a computed tomography angiogram (CTA) of the head and neck was obtained, which revealed a right vertebral artery dissection at the level of C3.

Discussion

Cervical artery dissection describes an intimal tear occurring in either the carotid or vertebral arteries. Vertebral artery dissection represents a rare but potentially life-threatening presentation, with incidence of about 1 per 100,000 individuals.²

Dizziness is the most common symptom at presentation, appearing in 58% of patients, closely followed by headache (51%) and neck pain (46%).⁹

Reported risk factors for vertebral artery dissection include history of trauma and connective tissue disorders. However, the correlation of these risk factors with development of vertebral artery dissection may not be as strong as previously believed, with one systematic review showing these risk factors were present in only 8% of cases of vertebral artery dissection.⁹

Digital subtraction angiography (DSA) is traditionally accepted as the gold standard imaging modality for the diagnosis of vertebral artery dissection. Typically, imaging is performed with CTA or magnetic resonance angiography (MRA).¹⁰ The most common imaging characteristic associated with vertebral artery dissection is arterial stenosis (51%), followed by “string and pearls” (48%), and dilation of artery (37%).⁹

Management of vertebral artery dissection may include medical or surgical therapy. Medical management includes antithrombotic or anticoagulation therapy, with one systematic review clearly demonstrating benefit of medical therapy in blunt cerebrovascular injuries over no treatment.¹¹

Further research may determine the efficacy of anti-thrombotic compared with anticoagulation therapy and the optimal duration of treatment. Case reports have described patients undergoing endovascular stenting, thrombectomy, or a combination of thrombectomy/stenting with success.¹²

Teaching Points

- Dizziness can be caused by a broad range of benign

to life-threatening conditions.

- Suspicion of a concerning etiology should be higher in patients presenting with *constant* vertigo, which is not associated with positional change of the head or change from seated position, or those with known history of arterial disease such as carotid stenosis.
- The Dix-Hallpike maneuver does not have sufficient sensitivity or specificity to exclude or confirm the diagnosis of BPPV.
- Trauma and connective tissue disorders are significant risk factors for vertebral artery dissection, but do not need to be present for a dissection to occur.
- The absence of abnormal findings on gait and coordination testing does not exclude vertebral artery dissection.
- About half of patients with vertebral artery dissection will have no headache or neck pain.
- Diagnosis of cervical artery dissection can be confirmed with a CT-A of the head and neck.
- Recommendations for vertebral artery dissection may consist of either medical therapy (eg, antiplatelet and/or anticoagulant agents) or surgical interventions, depending on patient features and the location and extent of the dissection. ■

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Atypical Chest Pain Reveals Rare T-Cell Lymphoblastic Lymphoma: A Case Report

Urgent message: Not all patients presenting to urgent care with chest pain require immediate transfer to a higher-acuity setting. Rather, immediate evaluation in the urgent care center can inform next steps for management on site or, in the event of truly emergent symptoms, transfer.

TUSHAR MENON, MD; SAHIL KAPUR, DO; AMEERA C. MISTRY, MD; and DAVID M. BOYD, MD

Citation: Menon T, Kapur S, Mistry AC, Boyd DM. Atypical chest pain reveals rare T-cell lymphoblastic lymphoma: a case report. *J Urgent Care Med.* 2023;17(5): 17-19.

Key words: T-cell lymphoblastic lymphoma, non-Hodgkin's lymphoma, anterior mediastinal mass, chest pain, urgent care

Abstract

Chest pain patients require timely evaluation due to the broad differentials of diagnosis, including acute coronary syndrome (ACS), aortic dissection, myocarditis, pulmonary embolism (PE), tension pneumothorax, gastroesophageal reflux disease (GERD), or musculoskeletal pain. Sometimes, a less common diagnosis such as malignancy is found.

Introduction

T-cell lymphoblastic lymphoma (T-LBL) is a rare form of aggressive non-Hodgkin's lymphoma that comprises about 2% of all non-Hodgkin's lymphomas.¹ T-LBL itself accounts for 90% of all LBLs and generally occurs in adolescents and young adults, mostly males.² They typically present as an advanced, widely disseminated version of non-Hodgkin's lymphoma, usually with a mediastinal bulky mass with concomitant pleural

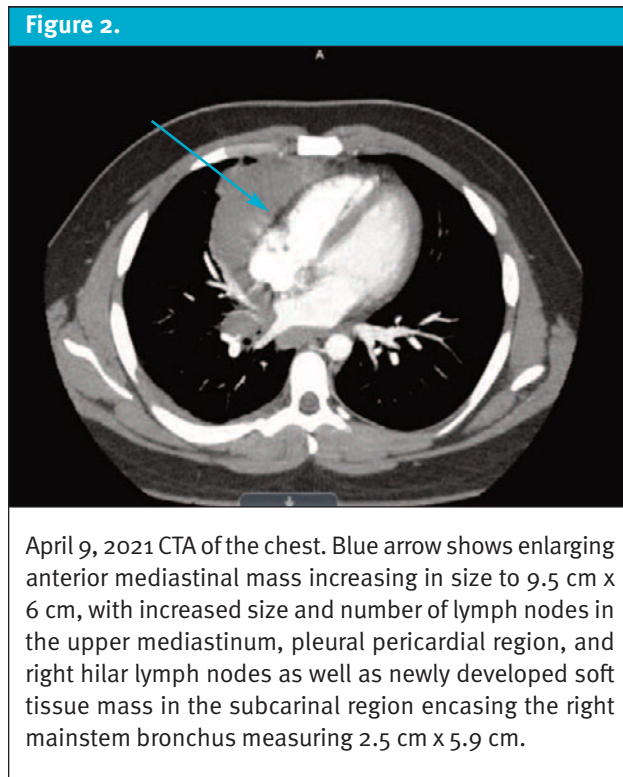
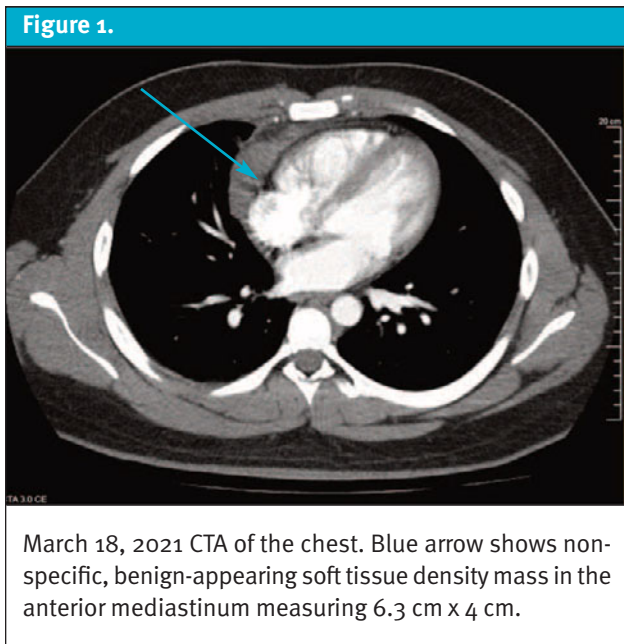


and pericardial effusions. Typically, the thymus, testes, and ovaries are involved.³ CNS involvement can be seen in 5% to 10% of cases.⁴

Case Presentation

A 20-year-old male with no significant past medical

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history presented with a 3-day history of centralized pleuritic chest pain which began when he was lifting boxes. The character is dull and constant. He also has back pain, most prominent when he wakes up, that has increased in severity over the past 3 days. Patient also stated he has had headaches that are localized to both his forehead and back of skull with no reported prodromal symptoms or known cause.

Patient was previously seen in the ED 3 weeks prior with multiple complaints, including right pleuritic chest pain that radiated to his neck and fever.

A computed tomography angiography (CTA) of the chest (**Figure 1**), revealed a nonspecific, benign-appearing soft tissue density in the anterior mediastinum with differential of thymoma versus lymphoma.

Patient was unable to seek recommended follow-up care.

Patient’s vitals revealed heart rate of 111 bpm and a temperature of 100.9°F. Patient’s labs were significant for a WBC: 15.5, glucose: 150, pro- calcitonin: 1.86, and an elevated D-dimer: 1.22. Three sets of troponins were drawn, all of which were negative. Patient’s COVID PCR was negative. EKG revealed sinus tachycardia. Chest x-ray showed prominence of the right heart border compatible with previously identified anterior mediastinal lesion. Thymic lesion vs lymphoma were considered.

Differential Diagnosis

GERD is unlikely, given the nature and duration of

pain, and musculoskeletal pain was unlikely due to the lack of reproducible pain and location.

Patient’s lack of history of connective tissue disorders, chronic hypertension, or severe, tearing chest pain made aortic dissection less likely.

At patient’s age, lack of significant past medical history of hypertension/hyperlipidemia or common risk factors of immobility, recent surgeries, or trauma make ACS, PE less likely.

Also, with a prior diagnosis of a mediastinal mass and the possibility of cancer-induced hypercoagulability, PE or ACS must be excluded.

Although this patient was young and had no risk factors, prompt treatment is warranted for any patient with a high morbidity risk diagnosis, such as ACS, PE, or an aortic dissection.

Case Resolution

A repeat CTA in the ED 3 weeks later (**Figure 2**) showed a large mass measuring 9.5 cm x 6 cm in the anterior mediastinum that extended to the right of the midline, with an increase in size compared with 6.3 cm x 4 cm on previous CTA chest imaging (**Figure 1**).

A new soft tissue mass was visualized in the subcarinal region, with soft tissue encasing the right mainstem bronchus and newly enlarged right hilar and upper me-

“This case may be utilized by medical professionals to draw attention to the importance of evaluating chest pain beyond the more common differential diagnoses or those that require prompt treatment.”

diastinal lymphatic chain nodes and 1.4 cm enlarged pleuropericardial lymph nodes adjacent to the right ventricle, not visualized on previous imaging.

A CT scan of the abdomen and pelvis revealed heterogeneous pericardial and right perihilar infiltrate mass-like lesions with prominent pericardial and epicardial lymph nodes, the largest measuring 1.6 cm, as well as a 2.4 cm right paraesophageal lymph node lesion, most concerning for lymphoma.

Tissue samples for pathologic analysis were obtained on April 11, 2021 via endobronchial ultrasound bronchoscopy and on April 12, 2021 via a CT-guided biopsy. Pathologic analysis revealed a diagnosis of T-cell lymphoblastic lymphoma.

With diagnosis, patient was referred for prompt chemotherapy management.

Discussion

As of 2018, 5,960 new cases and 1,470 deaths have occurred because of T-LBL in the United States.⁵ T-cell lymphoblastic lymphoma is a mediastinal mass that typically presents with shortness of breath due to compression of the superior vena cava.⁵

Although this disease more commonly presents in males and adolescents, further studies are needed evaluate whether there is a significant role for T-cell lymphoblastic lymphoma in people greater than 40 years of age.

In regard to this patient, there was a 6.3 cm x 4 cm mass that increased in size to 9.5 cm x 6 cm over time. The increase in size was due to the presence of more than one extranodal localizations, with particular appreciation of lesions in the right hilar lymph nodes and upper mediastinal lymph nodes.⁶

Symptoms associated with back pain, as seen in this patient, can occur due to compression of nervous tissue structures from enlarged lymph nodes.

Conclusion

Although incredibly rare, T-cell lymphoblastic lymphomas can occur as a small subset of non-Hodgkin's lymphoma.

In this case report, we presented a patient with chest pain from a T-cell lymphoblastic lymphoma with a mass that had grown to 9.5 cm x 6 cm, compared with 6.3 cm x 4 cm on previous measurement (Figures 1 and 2).

This case may be utilized by medical professionals to draw attention to the importance of evaluating chest pain beyond the more common differential diagnoses or those that require prompt treatment. Evaluating younger patients further requires evaluation of other less common causes. ■

Manuscript submitted July 5, 2022; accepted September 9, 2022.

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Take-Home Points

- T-cell lymphoblastic lymphoma accounts for 90% of all lymphoblastic lymphomas and generally occurs in adolescents and young adults, mostly males.
- T-cell lymphoblastic lymphoma is a rare form of aggressive non-Hodgkin's lymphoma that comprises about 2% of all non-Hodgkin's lymphomas.
- In reviewing the differential diagnoses for this patient:
 - GERD is unlikely in this patient due to the nature and duration of pain
 - Musculoskeletal pain was unlikely due to the lack of reproducible pain and location
 - Lack of history of connective tissue disorders, chronic hypertension, or severe, tearing chest pain made aortic dissection less likely
 - With a prior diagnosis of a mediastinal mass and the possibility of cancer-induced hypercoagulability, PE or ACS must be excluded
- Prompt treatment is warranted for any patient with a high morbidity risk diagnosis, such as ACS, PE, or an aortic dissection.

Retrospective Study on the Impact of Increased Value-Add Time on Patient Experience in Pediatric Urgent Care Centers

Urgent message: Increase in the proportion of value-add time during an encounter was associated with an increased rate of positive perceptions of timeliness and overall patient experience in pediatric urgent care centers.

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Key words: Acute care, patient experience, length of stay, pediatric

Abstract

Objective: While length of stay (LOS) has been shown to be inversely related to patient experience scores in acute care settings, Lean dogma prioritizes increasing value-added (VA) time during an encounter. We evaluated the impact of process improvements to increase the proportion of LOS considered to be VA time on patient experience scores.

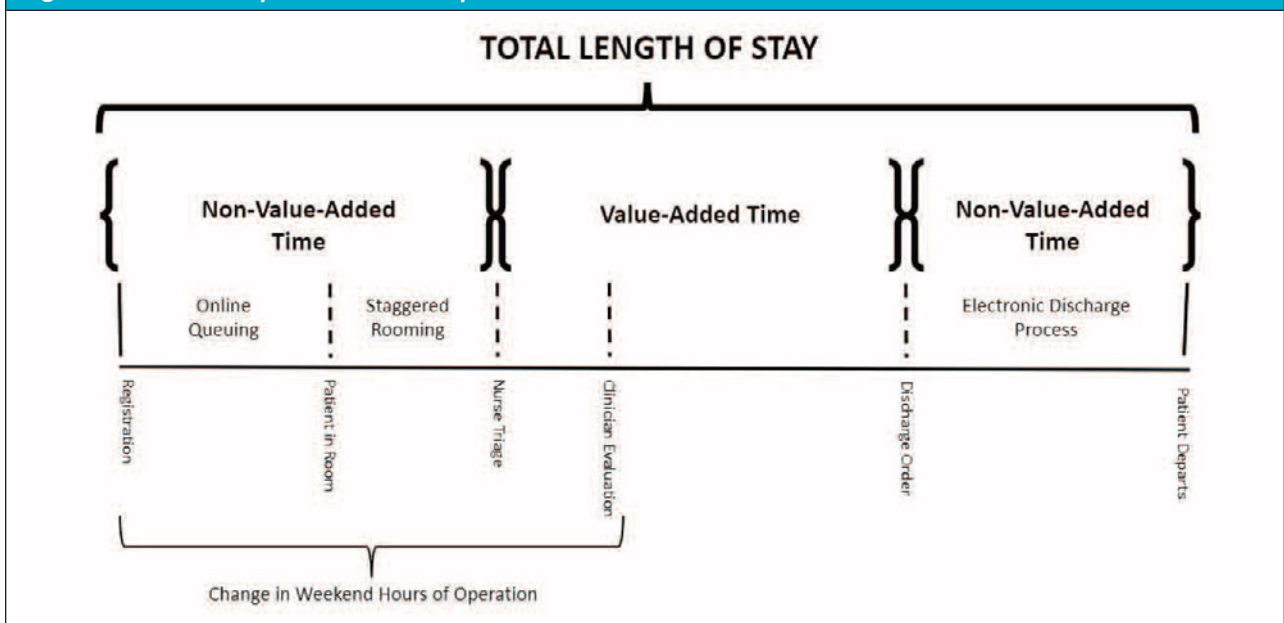
Methods: This retrospective study of 4 years of encounters in three pediatric urgent care centers included all visits with an associated patient experience survey. LOS was total time from registration to departing the building. VA time was defined as the time from nurse triage documentation to discharge order placed. Outcome measures were positive perceptions of timeliness and overall visit ratings obtained via patient experience surveys.

Results: Median LOS declined from 80 minutes in fiscal year 2018 to 75 minutes in fiscal year 2021. Over the 4-



year period, perceived timeliness and positive overall visit ratings increased from 53.1% to 70.5% and 56.5% to 76.5%, respectively. Perceived timeliness and positive overall visit rating peaked at a LOS of 21-30 minutes and 31-40 minutes, respectively. As the proportion of VA time increased, the positive perceptions of timeliness and overall visit ratings also increased.

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Figure 1. Perceived Impact of Process Improvements on the Workflow of the PUCs

Conclusion: Increasing VA time resulted in improved patient experience scores, though there is a greater increase in scores for patients with a longer LOS.

Introduction

Healthcare has embraced a continuous improvement journey to improve patient experience and health outcomes, eliminate waste, and be better stewards of resources.^{1,2} Lean healthcare (LH), a popular system based on the Toyota production system, has emerged as the leading strategy to eliminate waste and add value to the patient's experience since the early 2000s.^{3,4}

Up to 70% of hospitals in the United States use LH or similar strategies to improve outcomes and lower costs across a variety of departments within healthcare organizations.⁵ LH principles dichotomize processes as either value-add (VA) or non-value add (NVA) with regards to the patient.⁶ Processes that satisfy the patient's needs are considered VA time whereas any processes that take time, space, or resources that do not satisfy the patient's needs are considered NVA time.¹

A 2020 systematic review found that LH eliminated waste by reducing wait times and LOS in ambulatory settings, but lacked evidence that LH impacted patient satisfaction.⁷⁻¹⁶ A multitude of factors can affect patient satisfaction, including wait times, LOS, humanity of care, communication, facility cleanliness, surveying methods, and cost.^{17,18}

Total LOS and wait times have become common met-

rics for improvement across many ambulatory services, including emergency departments and urgent care (UC) centers^{17,18}; however, higher patient satisfaction scores have been associated with better medical outcomes and patient safety measures.¹⁹⁻²²

Access and convenience are leading urgent care to be one of the fastest growing sectors in healthcare.^{2,23} In a 2019 survey, more than one in four children had at least one urgent care visit during the previous 12 months.²⁴ Having an urgent care located within one's zip code^{24,25} and even one visit to a UC, was associated with decreased emergency department use.^{25,26}

UC centers also provide faster time to evaluation compared with the ED. On average, LOS at a hospital-based pediatric UC (PUC) is 70 minutes.²⁷ This would generally be longer when compared with a scheduled appointment at a primary care office; however, in the ED patients have an average LOS of 1-2 hours.^{28,29}

While previous studies in an emergency room setting have demonstrated that a shorter LOS was associated with improved patient satisfaction scores, these studies did not evaluate the impact of LOS specific to the faster-paced, convenient care PUC setting.¹⁹⁻²¹ Nor have studies evaluated if the proportion of VA time influences perception of timeliness and overall satisfaction.²²

This study evaluated the impact process improvements to increase the percentage of VA time in a PUC setting had on the percentage of positive perceptions for timeliness and overall rating on patient surveys.

Methods

Setting and Process Improvements

We implemented multiple process improvements from July 2017 to June 2021 within three freestanding PUC centers in a midwestern metropolitan area associated with a tertiary pediatric healthcare entity. The PUC centers operate 10 hours a day, 365 days a year. Pediatricians and advanced-practice nurse practitioners staff the PUC centers and provide care for over 90,000 encounters for unscheduled, nonemergent pediatric illnesses and injuries each year.³⁰

In 2016, a multidisciplinary group of PUC directors, clinicians, nurses, care assistants, and patient-access representatives completed training in LH methodology. They used process mapping to identify areas of NVA time during a patient encounter. Next, they identified interventions that could reduce the proportion of the visit considered NVA time, thereby increasing the proportion considered VA time. (See **Figure 1**.)

Ideally, VA time would be defined as face-to-face interaction time with a nurse or provider. However, the EMR limited the ability to obtain only face-to-face time stamps. Therefore, VA time was defined as the time between nurse triage initiation and discharge order. Interventions developed to decrease NVA time included staggered rooming, online queuing, shifting weekend hours of operation, and an electronic discharge process.

Staggered rooming

We implemented staggered rooming in June 2017. This process involved care assistants controlling the flow of patients into exam rooms so that only two to four patients were waiting in an exam room to be seen. This decreased the NVA time that patients spent waiting in the exam room and increased transparency of the expected queue families had on arrival.

Online queuing

In September 2017, we implemented an online queuing process that allowed families to reserve their spot online prior to arrival in the PUC facility. This decreased NVA time families spent in the waiting room and allowed us to display anticipated wait times to family expectations.

Shifting weekend hours

After implementing online queuing, we noticed an increase in patient volumes during opening hours on the weekends, which resulted in longer LOS for clinical encounters throughout the day. To accommodate this uneven demand of service, in January 2018 we shifted the weekend hours to open earlier in the day. This al-

lowed for a more even cadence of patients entering the unit throughout the day and decreased overall wait times in the first few hours of opening.²⁹

Electronic discharge process

To decrease NVA time families spend waiting after the discharge order is placed, we implemented an electronic depart process initially at one PUC site in July 2018 and spread to all sites in July 2019.³¹ This process required families to enroll in an online patient portal to receive electronic discharge instructions.

Study Design

We performed a retrospective study of all PUC encounters discharged between July 1, 2017 and June 30, 2021 that completed a postdischarge patient experience survey. Our analysis excluded any encounters of patients that left before they were seen, those transferred or admitted, or if the encounter did not have an associated returned patient experience survey. We collected patient demographics (age, gender, race, ethnicity, documented patient language, insurance type) and time-stamp documentation from the electronic medical record. Demographics of survey respondents vs nonrespondents were obtained to determine response bias. The study (STUDY00001687) was deemed exempt under 45 CFR 46.104(d) category 4(iii) per our institutional review board.

Data collection

We measured total LOS in minutes, which we extracted from the EMR encounter time stamps and defined as the duration of time from registration to checkout from the facility. We defined VA time as the time between the start of nurse triage assessment to the discharge order (**Figure 1**).

LH dogma places importance on evaluating success through the lens of the consumer; therefore, we used patient experience surveys for our outcome measures.^{32,33}

First, perception of timeliness was defined as a response of “Yes, definitely” on a 4-point Likert scale to the question “Were you seen in a timely manner?”. Second, we defined positive overall rating as a score 9 on a 0-10 scale for the question, “If 0 is the worst and 10 is the best, how would you rate this visit?”

Data analysis

We documented changes in median LOS, perception of timeliness, and overall rating by fiscal year. We dichotomized the data based on whether an encounter LOS was above (“longer”) or below (“shorter”) the overall median LOS for the entire study period. We then

Table 1. Encounters that Completed a Patient Experience Survey and Were Included in the Primary Analysis vs Those that Did Not Complete a Survey and Were Excluded from Analysis				
	Total encounters (n= 321,658)	Responded to survey (n=39,286)	No survey response (n=282,372)	p-value
Fiscal Year—n (column %)				<0.001
2018	94,083 (29.2%)	14,547 (37.0%)	79,536 (28.2%)	
2019	89,853 (27.9%)	10,495 (26.7%)	79,358 (28.1%)	
2020	81,587 (25.4%)	7,818 (19.9%)	73,769 (26.1%)	
2021	56,135 (17.5%)	6,426 (16.4%)	49,709 (17.6%)	
Patient age				<0.001
<2 years	79,483 (24.7%)	8,534 (21.7%)	70,949 (25.1%)	
2-12 years	195,504 (60.8%)	24,302 (61.9%)	171,202 (60.6%)	
13+ years	46,669 (14.5%)	6,449 (16.4%)	40,220 (14.2%)	
Unknown	2 (0.0%)	1 (0.0%)	1 (0.0%)	
Gender				0.006
Female	159,040 (49.4%)	19,529 (49.7%)	139,511 (49.4%)	
Male	162,599 (50.6%)	19,751 (50.3%)	142,848 (50.6%)	
Unknown	19 (0.0%)	6 (0.0%)	13 (0.0%)	
Patient Language				<0.001
English	310,165 (96.4%)	37,651 (95.8%)	272,514 (96.5%)	
Spanish	7,007 (2.2%)	1,166 (3.0%)	5,841 (2.1%)	
Other	4,482 (1.4%)	468 (1.2%)	4,014 (1.4%)	
Unknown	4 (0.0%)	1 (0.0%)	3 (0.0%)	
Ethnicity				<0.001
Hispanic/Latino	40,596 (12.6%)	4,675 (11.9%)	35,921 (12.7%)	
Non-Hispanic	278,322 (86.5%)	34,170 (87.0%)	244,152 (86.5%)	
Unknown	2,740 (0.9%)	441 (1.1%)	2,299 (0.8%)	
Race				<0.001
White	216,222 (67.2%)	27,315 (69.5%)	188,907 (66.9%)	
Black	36,552 (11.4%)	3,927 (10.0%)	32,625 (11.6%)	
Asian	7,306 (2.3%)	973 (2.5%)	6,333 (2.2%)	
Hispanic	24,799 (7.7%)	3,000 (7.6%)	21,799 (7.7%)	
Other	33,116 (10.3%)	3,492 (8.9%)	29,624 (10.5%)	
Unknown/refused	3,663 (1.1%)	579 (1.5%)	3,084 (1.1%)	
Insurance				<0.001
Commercial	165,291 (51.4%)	23,412 (59.6%)	141,879 (50.2%)	
Medicaid	127,004 (39.5%)	12,409 (31.6%)	114,595 (40.6%)	
Self-pay	16,070 (5.0%)	1,534 (3.9%)	14,536 (5.1%)	
Other	7,859 (2.4%)	1,253 (3.2%)	6,606 (2.3%)	
Unknown	5,434 (1.7%)	678 (1.7%)	4,756 (1.7%)	
Length of stay—minutes median [IQR]		77.4 [56.9, 105.0]	74.9 [55.0, 101.0]	<0.001

evaluated the effect of increasing the proportion of VA time for the encounter on patient experience scores for visits, stratified by shorter/longer LOS. We trended the rate of positive patient experience scores for 10-minute increments in LOS and determined the slope of the

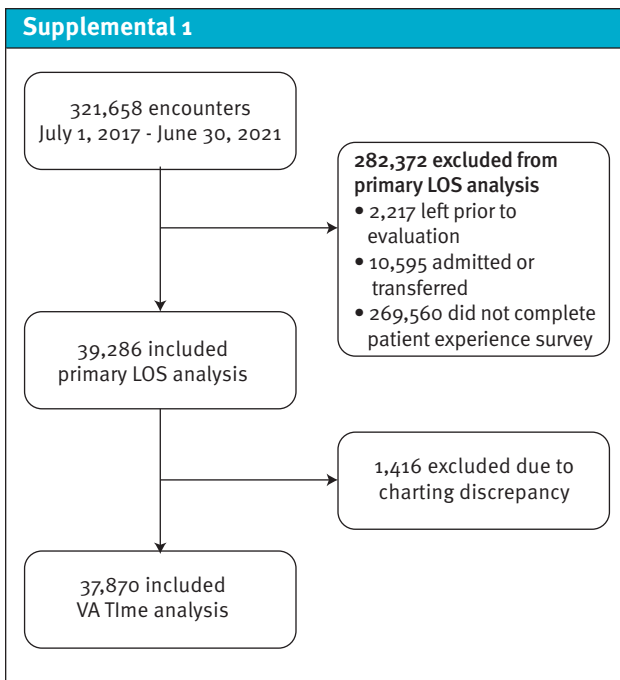
line. We used Microsoft Power BI (Version 2.99.862.0; Redmond, WA) to aggregate data and create visualizations. Data points were not reported if there were <30 survey respondents in that category.

The overall median LOS was compared between fiscal

years (FY) using an unadjusted quantile regression model. Unadjusted beta-regression models were used to examine the relationship between positive patient experience scores and the 10-minute incremental LOS variable. Postestimation marginal effects were completed to determine the discrete change in patient experience for each increase in LOS interval. Beta-regression models were used to model patient experience and a categorical VA (ie, 5% interval) indicator, stratified by short/long LOS status. Select demographic and clinical characteristics were compared based on inclusion/exclusion status, with Pearson’s chi-square test used for categorical variables and the Wilcoxon rank-sum test used for continuous variables. All analyses were completed using R software (version 4.0.3; R Core Team; Vienna, Austria).

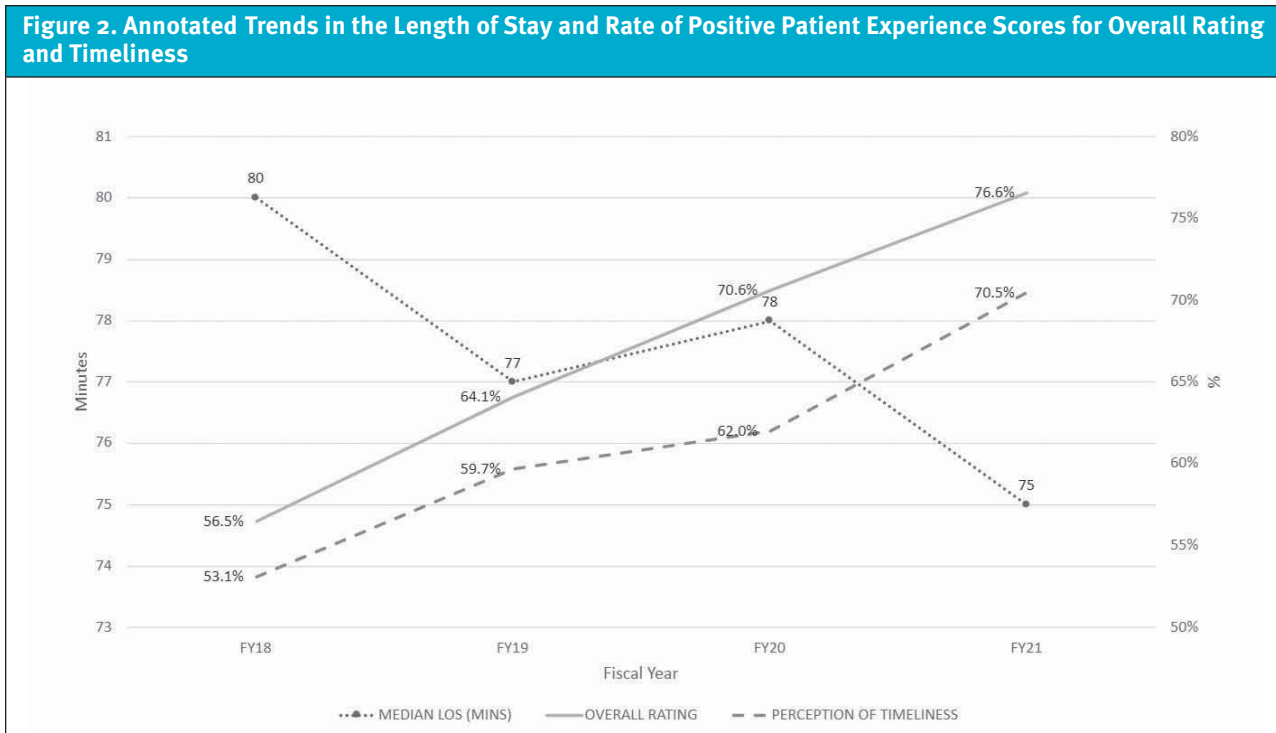
Results

We saw 321,658 encounters across three suburban PUC centers between July 1, 2017 and June 30, 2021. Of those encounters, 39,286 (12.2%) completed a patient experience survey and were included in our primary analysis. **Table 1** compares the demographics of those included and excluded in this analysis. We excluded an additional 1,416 encounters from the subanalysis of positive patient experience due to the percent VA time outside of 0% to 100% as this was likely a charting error (ie, nurse triage documentation timestamp occurred after patient was discharged (**Supplemental 1**)).



LOS and Positive Patient Experience

Median LOS decreased from 80 minutes in FY18 to 75 minutes in FY21 (p-value < 0.001). As LOS decreased, patient experience scores increased over time. The percentage of positive scores for both perception of timeliness and overall visit rating increased from 53.1% to 76.6%.



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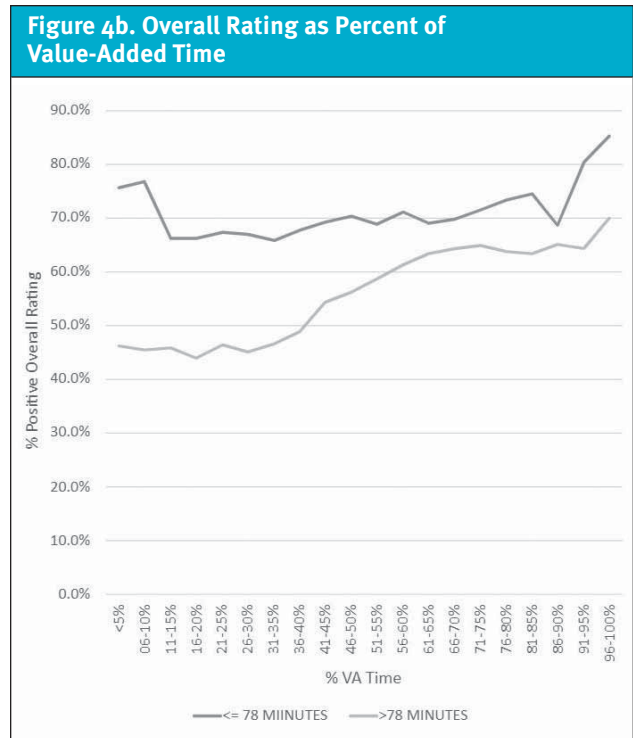
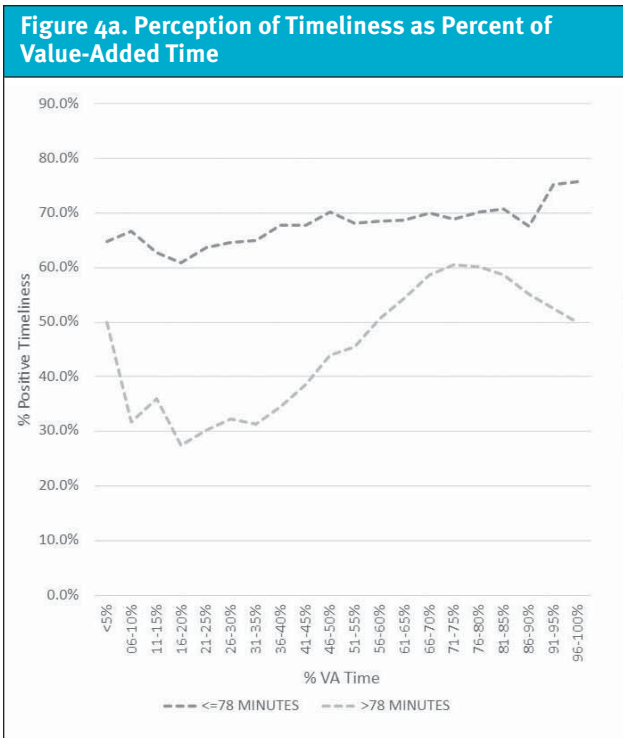
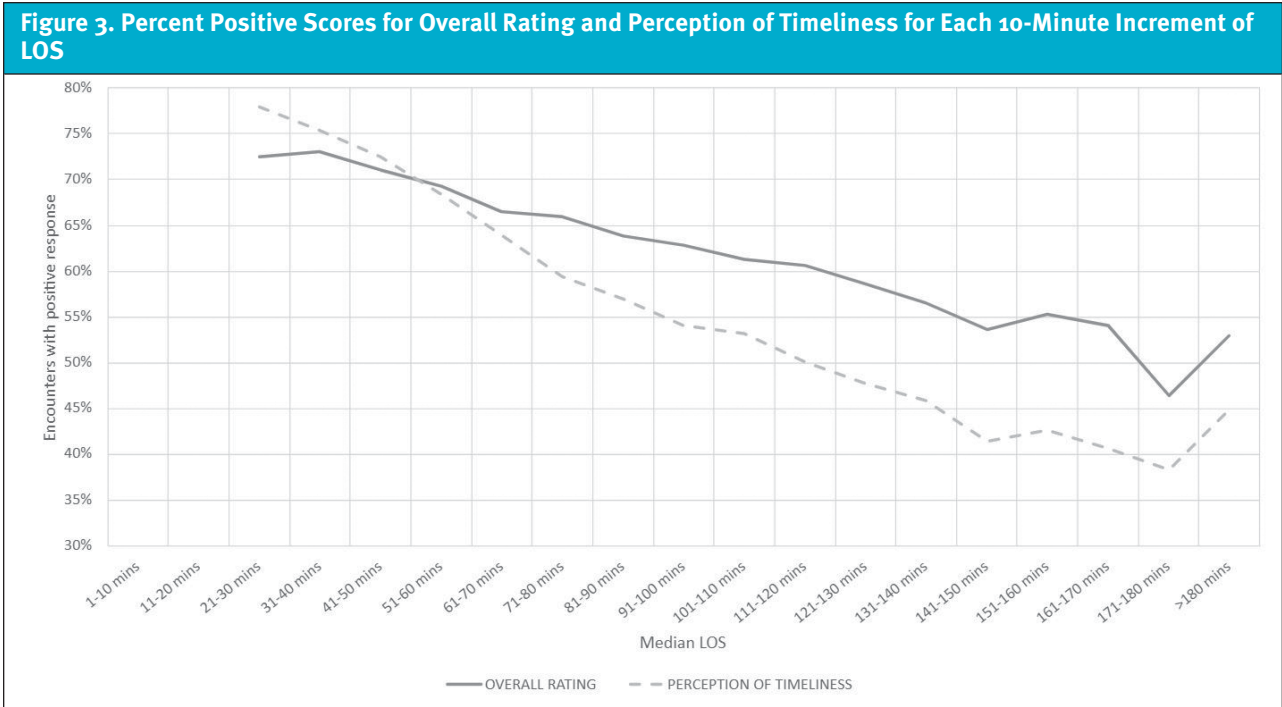
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70.5% (p-value < 0.001) and 56.4% to 76.6% (p-value < 0.001), respectively. (See Figure 2).

As LOS increased, the percentage of positive timeliness scores peaked at 77.9% at 21-30 minutes and

then began to decline at a slope of -2.4% for each 10-minute increase in LOS (p-value<0.001). (See Figure 3). The percentage of positive responses for overall visit rating peaked at 73.1% at 31-40 minutes and showed a

-1.5% decline for each 10-minute increase in LOS thereafter (p-value <0.001).

VA Time and Positive Patient Experience

For shorter stays, each 5% increase of VA time increased the percentage of positive timeliness scores by 0.53% (p-value <0.0001) and by 1.51% for longer stays (p-value <0.0001). (See **Figure 4a**). Similarly, overall visit rating increased by 0.41% for LOS ≤78 minutes (p-value=0.023) and 1.46% for LOS >78 minutes (p-value<0.001) for each 5% increase in VA time. (See **Figure 4b**).

Discussion

We implemented several processes that improved throughput, decreased total LOS, increased the percentage of VA time within encounters, and improved patient experience scores. Our efforts were associated with a 7.5% decrease in median LOS and a relative increase of positive patient experience scores of 33.9% for perception of timeliness and 38.4% for overall visit rating.

As the proportion of the visit that is considered VA time increased, the percentage of positive patient experience scores increased; moreover, the effect was more dramatic for encounters with durations longer than the median LOS of 78 minutes.

Our process-improvement interventions leveraged Maister's tenets on the psychology of waiting, which note that anxiety makes waits seem longer.³⁴ Few scenarios are more anxiety-provoking than an ill or injured child. The tenets leverage either setting expectations or improving perceptions. By increasing transparency on wait times, we were able to better manage families' expectations, resulting in an increase in patient experience scores despite a minimal decrease in actual median LOS.

The staggered rooming created a group waiting experience, a visible explanation for the wait time. The online queuing system allowed families to start the process right away and provided an ability to provide more certainty as to when they would be seen. This suggests that while we should continue to identify opportunities to eliminate waste and maximize efficiency, interventions that manage expectations, provide transparency, and influence perceptions of care delivery may be as effective at improving patient experience.

Our results are consistent with previous studies in the ED demonstrating an inverse relationship between length of stay and patient satisfaction.³⁵

While families have reported wait times up to an hour as acceptable in the emergency department, families in the PUC setting expect care to be more timely.² In the PUC setting, the percentage of positive overall

visit rating scores peaked at an LOS between 31-40 minutes. As LOS increased, the percentage of positive perceptions for timeliness decreased; however, the percentage of positive overall rating was resilient to increasing LOS. This suggests that timeliness was not the sole factor in determining a positive patient experience and aligns with one of the tenets on the psychology of waiting: the more valuable the service, the longer the customer will be willing to wait.³⁴

While previous quality improvement studies have focused on decreasing LOS in the emergency department and ambulatory settings,³⁶⁻⁴⁰ the effect of increasing the proportion of VA time on patient experience scores has not been reported.⁸

Our results indicate that increasing VA time is associated with an increase in both perception of timeliness and overall visit rating regardless of LOS. For encounters where the duration of the visit is longer than the median LOS, the effect of VA time is greater. For practical purposes, when families have experienced long wait times, they perceive the visit more favorably when the provider balances the prolonged wait time with a conscious effort to increase the VA time.⁴¹

Limitations

This study was conducted in multiple metropolitan PUCs; however, the generalizability of our results may be limited.

Although patient experience surveys are offered to all families seen in the PUC who had not recently completed a survey for a service at any of the associated pediatric facilities, the respondents were a small percentage of the overall population treated in urgent care.

There were statistically significant differences in demographics and LOS between the responders and non-responders, which may have biased the outcome measures as different socioeconomic and individual demographics can influence how families respond to a patient experience survey.

A small number of encounters with patient experience surveys were excluded due to VA time being outside the 0% to 100% range. This denotes the reliance on the human factor entering the time-mark data into the EMR at the actual time of service, which may impact the accuracy of the time marks. However, we would anticipate that this would have happened randomly and should not have induced undue bias.

Additionally, there may be NVA time during the evaluation and management of an encounter we did not subtract from the measured VA time. This additional NVA time may be significant in those encounters with

a longer total LOS, as those patients typically are waiting for laboratory or radiographic test results, therapeutic interventions, and/or consultations.

In patients with shorter LOS, the VA time gives a more accurate description of face-to-face time with the healthcare team.

The authors recognize that other operational or clinical processes could have affected patient perception that was not reviewed in our study. Other than the four major process improvements discussed, there was a change in hospital leadership during the study time-frame with resultant updates to our hospital's mission.

Finally, the COVID-19 pandemic occurred at the end of fiscal year 2020 and continued through the end of the study period. The early effect of the global pandemic recognizing "healthcare heroes" saw a national increase in patient experience scores during the last half our study and may be an anomaly.⁴²

Conclusion

This study adds to the body of evidence that the inverse relationship between LOS and patient experience ratings also apply in a PUC setting. Process improvements that manage patient expectations of wait time and increase the proportion of the encounter that is considered VA time can have a positive effect on patient experience scores despite a minimal effect on actual LOS. ■

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The ‘Triage’ Misnomer in Urgent Care

Urgent Message: While the term “triage” refers to one distinct step in emergency department throughput, in urgent care the concept encompasses a series of activities that span queuing, registering, intake, and the physical exam. Given the clinical and legal implications of the term, including who legally can triage, the term should be avoided in most urgent care settings.

ALAN A. AYERS, MBA, MAcc

According to modern dictionaries, *triage* refers to the “assignment of degrees of urgency to wounded or ill patients to decide the order of treatment.” In urgent care, the term is frequently used to describe a patient intake and rooming process. But, according to participants in a “triage bootcamp” at the Fall 2023 convention of the Northeast Urgent Care Association, the term “triage” is a misnomer in urgent care.

In an emergency room, triage refers to a brief patient evaluation after signing in but prior to completing registration. **Table 1** offers an example of the process as it’s explained to patients on the OhioHealth website. Consistent with the Emergency Medical Treatment and Labor Act of 1986 (EMTALA), hospitals accepting government payment must provide all patients with a screening examination, stabilize patients with an emergency medical condition, and transfer or treat patients as appropriate for their condition.

Thus, in an emergency department, triage has legal as well as clinical implications. Due to the wider range of acuity seen in a hospital setting, there’s a constant process of reprioritizing patients based on arrivals. By contrast, urgent care is generally limited to conditions that require same-day care, “immediate” within 24 hours, but not medical emergencies.

Per **Figure 1**, the patient “journey” in urgent care is diagrammed as a sequence of sequential steps. Whereas a triage in an emergency room is one distinct step, in



urgent care triage encompasses multiple steps, from queuing and registration to clinical intake and physical exam.

Queuing and Registering

Treatment at urgent care is typically delivered on a first-come, first-served basis with obvious exceptions for

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Table 1. Helping Patients Understand What to Expect in the ED vs Urgent Care

OhioHealth, a not-for-profit operator of 21 emergency care and trauma locations serving 47 counties, describes on its website what happens when patients arrive at the emergency department:

- When you first arrive, there may be security to make sure all our patients and families feel safe.
- At the check-in desk, you will be asked your name, date of birth, Social Security number, and the reason for your visit.
- You will also go through triage. The triage process determines who needs to be treated first. A triage nurse will determine the severity of a patient's condition based on symptoms. In addition, we'll ask about your personal and medical history, and take your vital signs, such as temperature, heart rate and blood pressure.

This process differs from urgent care in that emergency department registration does not occur until after triage. In urgent care, there is no dedicated "triage nurse," registration occurs before intake and treatment, and urgent care patients are generally seen on a first-come-first-served basis.

Source: <https://www.ohiohealth.com/services/emergency-and-trauma>.

medical emergencies. To join the "line," patients either sign in on a clipboard, provide their name to the front desk or, increasingly, use a queuing app that not only informs of expected wait times, but provides text message updates as expected wait times change.

"Triage" thus starts with "joining the line." If the patient joins online, verbiage should appear that patients experiencing a medical emergency—ie, threat of loss of life or limb—should call 911 or go to the nearest emergency room. Hopefully, most emergent patients would avoid urgent care.

Otherwise, arriving patients should be identified for the following symptoms:

- Bleeding that will not stop
- Fainting or loss of consciousness
- Chest pain or tightness
- Difficulty breathing or shortness of breath
- Changes in vision or difficulty speaking

This is accomplished at the front desk by staff visual observation, a paper intake questionnaire, and/or signage at registration asking patients to notify the front desk of these symptoms. If paperless registration is used, special attention should be paid to the presence of these symptoms. When these symptoms present, especially as a chief complaint registration should cease and a provider notified immediately. The provider can then determine whether to initiate emergency treatment, call 911, or return the patient to complete the registration process.

Under no conditions should nonclinical staff, such as medical receptionists, conduct any evaluation of a patient's condition. If there's any question as to whether a patient has potentially emergent symptoms, the provider should be involved.

One recommendation is a facility layout in which providers can see and hear front desk activity, such as

positioning the medical station behind the front desk, thus strengthening communication between the front and the back office.

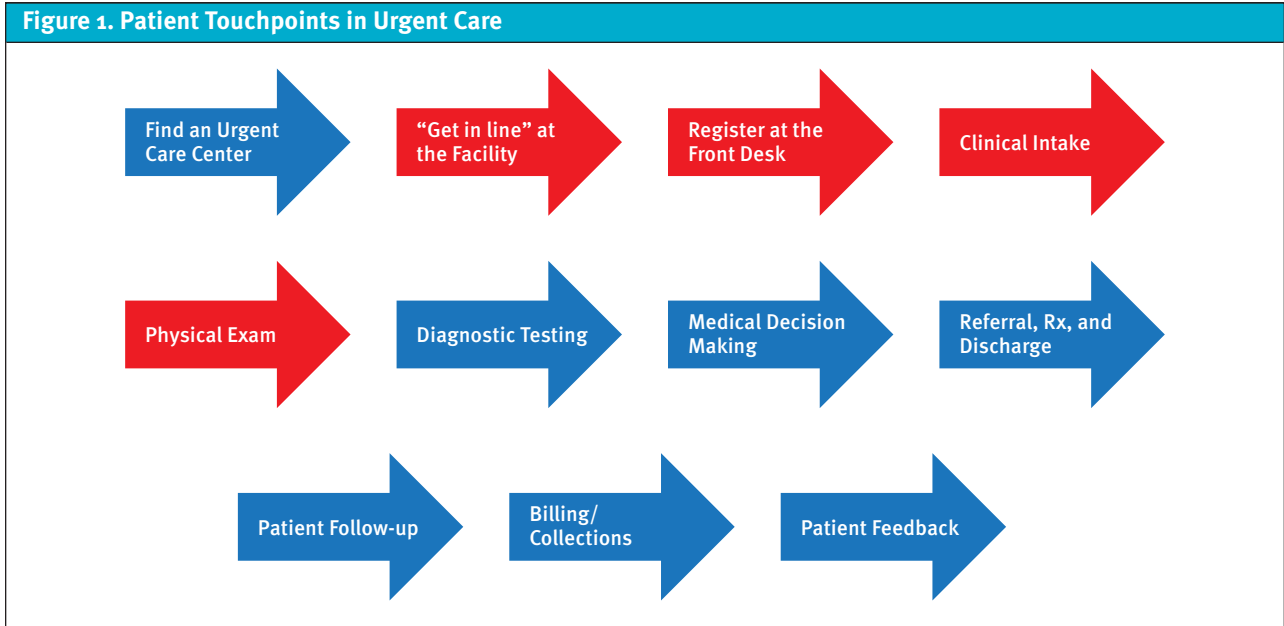
Intake and Rooming

Clinical intake, also called rooming, typically entails a medical assistant retrieving the next patient from the waiting room; taking vitals such as height/weight, temperature, and blood pressure; and reviewing the patient's medical history and complaints to assure accurate documentation for the provider. In many cases, the intake process includes following "standing orders" like conducting a rapid COVID, strep, or influenza test on patients meeting clinical criteria.

Now...should intake occur in a distinct location or in the exam room? Feedback is that a dedicated intake room adds inefficiency by creating a bottleneck in patient flow. It's easy when retreating to a separate room to engage in conversation that can easily waste 5-10 minutes. Efficient centers typically have a weight scale in the hallway but then take other vitals in the exam room where the patient will remain for the physical exam.

As with the front desk, clinical support staff must be aware of symptoms that would warrant immediate notification of the provider. Essentially, anything *abnormal* requires provider notification. The provider may then give the staff verbal orders for care until able to examine the patient him/herself.

It's important to note that a medical assistant cannot legally interpret medical data, make independent medical decisions, or give any type of medical advice. Thus, a medical assistant cannot legally triage a patient. Triage is reserved for licensed personnel such as Registered Nurses. In urgent care, it's more like "identification" and "notification" of emergent symptoms.



The term “triage” has significant implications for medical practices including:

- Legal/compliance
- Training/licensure
- Flow/throughput
- Wait times
- Patient experience
- Team experience
- Clinical outcomes

occurs in emergency departments. Dealing with non-emergent presentations, urgent care tends to process patients according to their order of arrival. While triage, per se, is not a part of urgent care throughput, urgent care should have procedures to identify abnormal symptoms and complaints that could indicate an emergent condition warranting immediate provider attention. Key is awareness and communication by all team members—front office, medical assisting, and providers. ■

Physical Exam

The physical exam is a continuation of the intake process. Based on a review of the patient’s history, symptoms, complaints, and a hands-on physical exam, the provider may provide medical assistants with additional orders such as labs or an ECG. The provider may also administer medications such as IV fluids or call an ambulance. Due to the human element, identifying potentially emergent patients can be more of an art than a science. But the responsibility can’t fall entirely on the provider.

According to the bootcamp participants, teamwork is key to effective coordination between the front and back office. The front desk, medical assisting staff, and providers must all understand their respective roles and then communicate extensively.

Conclusion

Triage is a word that carries significant medical and legal implications while referring specifically to a process that

Take-Home Points

- The term “triage” is something of a misnomer in urgent care, as it actually encompasses sequential steps, from queuing and registration to clinical intake and physical exam, whereas in the ED it occurs in one distinct step.
- Urgent care front desk, medical assisting staff, and providers must all understand their respective roles and communicate extensively.
- Nonclinical staff should never conduct any evaluation of a patient’s condition. If there is any question as to whether a patient has potentially emergent symptoms, notify a provider immediately.
- Registration should cease and a provider should be notified immediately when patients present with any of the following complaints or symptoms:
 - Bleeding that will not stop
 - Fainting or loss of consciousness
 - Chest pain or tightness
 - Difficulty breathing or shortness of breath
 - Changes in vision or difficulty speaking

A Comparison of Chief Complaints, Specific Diagnoses, and Demographics of Pediatric Urgent Care Visits Before and During the COVID-19 Pandemic: A Retrospective Study

Urgent message: Research has shown distinct differences in patterns of children presenting to emergency rooms during COVID-related lockdowns. However, data specific to urgent care have been lacking previously.

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Key words: COVID, pandemic, pediatric, research, urgent care

Abstract

There was an increased incidence of pediatric patients who presented with injuries caused by falls not related to sports or other recreational activities, as well as for animal bites, during the early pandemic period of April 2020. Education of parents and caregivers of young children is warranted to raise awareness of the even greater potential for falls and animal bites when children are confined at home for longer than typical periods of time, as occurred with the stay-at-home gov-



ernment orders during the initial period of the COVID-19 pandemic.

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Introduction

In March 13, 2020, the United States declared a national emergency and initiated widespread shelter-in-place orders to combat community transmission of the novel coronavirus, SARS-CoV-2. The first case of SARS-CoV-2 in the Commonwealth of Virginia was diagnosed on March 7, 2020. On March 12, a state of emergency was declared as the number of cases increased. On March 16, Governor Ralph Northam and State Health Commissioner M. Norman Oliver, MD, MA issued a public health emergency prohibiting more than 10 patrons in restaurants. Within a week, all recreation, entertainment services, fitness clubs, barber-shops, and massage parlors were closed. Finally, on March 23, Governor Northam announced that all schools in Virginia would remain closed until the end of the academic year.¹

Early reports from other countries noted sharp drops in the numbers of patients presenting to the emergency department.² Likewise, early in the pandemic, the Centers for Disease Control and Prevention analyzed data from the National Syndromic Surveillance Program on the weekly number of ED visits from January 1, 2019 to May 30, 2020. The number of ED visits decreased 42% during the period of March 29 to April 25, 2020 compared with March 31 to April 27, 2019. The largest proportional declines occurred in visits by children 10 years of age (72% decrease) and in adolescents 11 to 14 years old (71%).³

Not only were there changes in the volumes of pediatric patients presenting to emergency departments, but also in the types of complaints proportional to the number of visits. For example, compared with the same time in 2019, in 2020 the proportion of mental health-related visits for children 5 to 11 years of age increased 24%, while those visits for teens 12 to 17 years of age increased approximately 31%. During weeks 12–42, 2020 (mid-March to October), average weekly reported numbers of total ED visits by children were 43% lower compared with those during the same period in 2019.

While there are some data comparing early pandemic and prepandemic pediatric emergency room visit types, there are no data on how the COVID-19 pandemic in April 2020 impacted pediatric urgent care centers in the United States. There are also no data on the severity of illness or the demographics of the pediatric patients presenting to urgent care centers at this time or whether children of color or ethnic minorities, typically considered vulnerable populations, were found to have more severe illness and need for a higher level of care and transfer to the pediatric ED.

Hence, in this retrospective chart analysis we examined types of chief complaints and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes for all completed visits of all pediatric patients who presented for medical care to four pediatric urgent care centers affiliated with a children's hospital, during both April 2019 and April 2020. Severity of illness in four subgroups that often require transfer to the ED—disorders of breathing, skin-and-soft-tissue infection (SSTI), urinary complaints, and trauma—and demographic information were further evaluated by manual chart review.

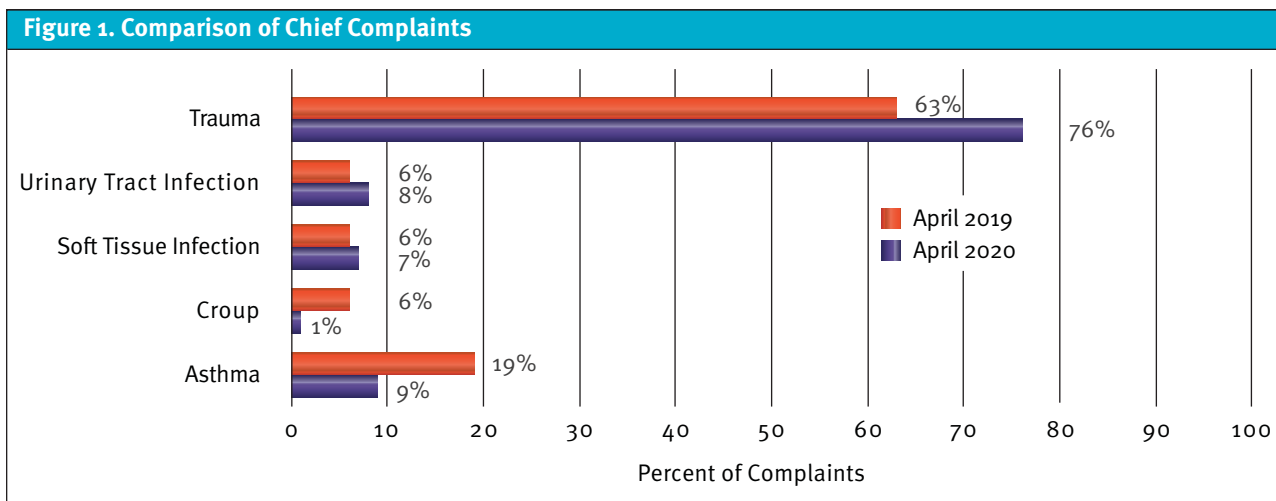
Methods

Children's Hospital of the King's Daughters (CHKD) is the only freestanding children's hospital in Virginia, and home of the region's only Level I pediatric trauma center. CHKD serves the medical and surgical needs of children throughout coastal Virginia and northeastern North Carolina.

The urgent care centers (UCCs) are an integral part of CHKD and render services to patients from birth to <21 years of age. In April 2019, there were four UCCs open 7 days a week with a total of 7,579 completed visits. In April 2020, all four urgent care centers were operating for in-person visits from April 1 through 14. As of April 15, one of the centers converted to telehealth (TH) visits only. For the month of April 2020, compared with April 2019, there was a 70% drop in total visits, with a total of 2,291 completed visits (including the 136 completed TH encounters).

This study sought to provide understanding of what types of pediatric patient complaints and diagnoses were seen during the early pandemic period of April 2020, and whether there was a difference in type and severity of patients who presented during this time compared with the prepandemic period in April 2019. All chief complaints and ICD-10-CM discharge diagnosis codes for both time periods were reviewed and agreed upon by two investigators, with the principal investigator (PI) as the third reviewer for consensus, when necessary.

From these data, four subgroups of patients with ICD-10-CM codes, including any type of trauma-head injury, fall, motor vehicle accident, fracture, sprain, strain, laceration, bite, contusion, nonaccidental trauma, SSTI-cellulitis and abscess, urinary complaint-dysuria, hematuria, cystitis, urinary tract infection, and concern for abnormal breathing-asthma, bronchospasm, wheezing, and laryngotracheitis were further identified. Patients with these discharge diagnosis codes were further evaluated, as these patients can require a higher level



of care or transport to the ED.

Additional evaluation with chart reviews for those four subgroups of patients was then undertaken. Trained investigators manually reviewed 2,635 charts that had these diagnoses from both time periods (1,816 from 2019 and 819 from 2020) for patient demographics (age, gender, race, ethnicity, insurance type) and patient outcome, with need for transfer to the ED, for hospitalization, or surgical intervention. All data were entered and stored in Research Electronic Data Capture (REDCap), the web-based application developed by Vanderbilt University.

The Institutional Review Board (IRB) of the Eastern Virginia Medical School granted IRB exemption for this study. IRB #21-03-XX-0084. Turaj Vazifedan is a statistician. He completed a statistical review and approved the methodology.

Statistical Analysis

Continuous variables are presented as mean, standard deviation (SD), median, 25th and 75th percentile. Categorical variables are presented as frequency and percentage. Mann-Whitney test was used to compare the age between 2019 and 2020. Chi-square test was used to compare differences in the rates of gender and diagnosis between 2019 and 2020. All statistical tests were performed using SPSS.26 (Chicago, IL). All statistical tests were two-sided, and $p < 0.05$ was considered as statistically significant.

Results

In April 2019, a total of 7,579 completed visits occurred. In April 2020, all four urgent care centers were operating for in-person visits from April 1-14. As of April 15, one

of the centers converted to telehealth (TH) visits only. For the month of April 2020, compared with April 2019, there was a drop in total visits by 70% with a total of 2,291 completed visits, including the 136 completed TH encounters.

A total of 2,635 charts from both time periods (1,816 from 2019 and 819 from 2020) that had an ICD-10-CM diagnosis of asthma, croup, bronchospasm, wheezing, urinary complaint, SSTI such as abscess and cellulitis, and any trauma codes were then evaluated by chart review. Patient demographics (age, gender, race, ethnicity, insurance type) and patient outcome-discharge to home, transfer to any ED, transfer to the CHKD ED, hospital admission, and need for surgery were also evaluated.

Demographic variables assessed included age, gender, race, ethnicity (Hispanic, non-Hispanic Black, non-Hispanic White, non-Hispanic Asian, and non-Hispanic other) and primary payer (medical assistance, private insurance, self-pay, Tricare, other). There was a significant difference in age between 2019 and 2020, with younger patients seeking care in April 2020—median age 5.9 years vs 7.3 years in 2019.

There was no significant difference in the proportion of urgent care visits of patients who identify as a minority race or ethnicity.

In both April 2019 and 2020, patients who identified as non-Hispanic Black made up 34% and 35.3% of the visits, respectively, while patients who identified as Hispanic made up 5.3% and 4.3%, respectively. Patients who identified as non-Hispanic White made up 54.7% of the visits in both of these time periods.

Additionally, there was no significant difference in the proportion of patients based on payer type. Patients

Table 1. Comparison of Diagnosis Rates in April 2019 and April 2020					
Visit Month/Year					
		April 2019	April 2022		
		N (%)	N (%)	% diff (95% CI)	p-value
Diagnosis	Asthma	352 (19.4)	75 (9.1)	10.3 (7.5, 13.0)	<0.001
	Croup	103 (5.7)	6 (0.7)	5 (3.6, 6.2)	<0.001
	Skin/soft tissue infections	114 (6.3)	54 (6.6)	0.3 (-1.8, 2.4)	0.84
	Urinary tract infections	111 (6.1)	5 (7.9)	1.8 (-0.4, 4.0)	0.10
	Trauma	1138 (62.6)	623 (75.7)	13.1 (9.3, 16.9)	<0.001
	Sports-related	213 (18.7)	23 (3.7)	15 (12.2, 17.9)	<0.001
	Non-sports-related	162 (14.2)	111 (17.8)	3.6 (-0.2, 7.3)	0.06
	Falls & others	745 (65.5)	469 (75.3)	9.8 (5.3, 14.3)	<0.001
	Bites	18 (1.6)	20 (3.2)	1.6 (0.1, 3.3)	0.037

with medical assistance made up 38% of the visits in April 2019 vs 41% of the visits in April 2020. Patients with private insurance made up 42% of the visits in April 2019 vs 35% of the visits in April 2020 and patients

with Tricare made up 17.8% and 21.6% of the visits in each of these time periods, respectively. Self-pay patients made up 2.0% and 1.6% of the visits, respectively.

For patients with the diagnoses noted previously,



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evaluated by manual chart review, there was not any significant difference in the rate of ED transfer (% difference [diff] 1.1, 95% CI (-1.0, 2.7), $p=0.21$), transfer to CHKD ED (% diff 6.0, 95% CI (-21.8, 10.3), $p=0.65$) and CHKD hospital admission (% diff 16.0, 95% CI (-6.9, 38.8), $p=0.19$) between April 2019 and April 2020.

For all patients seen during April 2019, 2.17% ($n=165$) transferred to the CHKD ED by either EMS, the CHKD Transport Team, or via private other vehicle (POV) in April 2019, with 3.6 % transfers ($n=84$) in April 2020. Five patients were transported by EMS to other hospitals in April 2019 vs one patient in April 2020.

Common complaints bringing patients to the urgent care in both time periods were upper respiratory symptoms, rash, abdominal complaints (vomiting, diarrhea, abdominal pain), lower respiratory complaints, soft-tissue infection, trauma, and urinary complaints. To determine if there were increases in severity of the more common complaints leading to transfer to the CHKD ED, we looked at the chief complaints as pertaining to trauma, soft-tissue infection, urinary complaint, asthma, and croup for both time periods. (See **Figure 1** and **Table 1**.)

Trauma

Sports-related injuries included the following organized and recreational activities: basketball, baseball, softball, football, soccer, lacrosse, cheer, and dance. Non-sports-related injuries included those sustained as a result of a trampoline; any injury involving wheels, including motor vehicle-related injuries; burns; and nonaccidental trauma. Falls included those visits with a fall that did not involve either sports or non-sports-related injuries, and bite injuries were any type of human or animal bite.

There was a significantly higher number of visits for trauma-related diagnoses in 2020 compared with 2019 (% diff 13, 95% CI (9.3, 16.9) ($p<0.001$)). However, there was a significantly lower number of sports-related injury visits in 2020 (% diff 15.0, 95% CI (12.2, 17.9), $p<0.001$). Visits for falls (% diff 9.8, 95% CI (5.3, 14.3), $p<0.001$) and bites (% diff 1.6, 95% CI (0.1, 3.3), $p<0.037$) were significantly higher in 2020. Falling was the top reason for injury during both time periods. (For further detail, see Developing Data, page 49.)

Soft-Tissue Infection

There was no significant difference in the rate of abscesses (% diff 0.3, 95% CI (-1.8, 2.4) $p=0.84$), in gender (% diff 5.2, 95% CI (-23.1, 32.0), $p=0.90$) or race (% diff 4.1, 95% CI (-34.6, 26.3), $p=0.98$) for those patients that needed an abscess drained in April 2020 vs April 2019.

Urinary Complaint

There was no significant difference in the rate of those patients diagnosed with a UTI in April 2019 compared with April 2020 (% diff 1.8, 95% CI (0.4, 4.0), $p=0.10$). Diagnosis of a UTI was based on urine culture results with 50,000 CFU/mL of a solitary organism on a clean-catch urine and 10,000 CFU/mL of a solitary uropathogen on a catheterized specimen considered as positive, respectively. In addition, there was not any significant difference in the rate of males diagnosed with UTI in 2019 vs 2020 (% diff 2.9, 95% CI (-9.4, 15.0) $p=0.78$). There was not any significant difference in the rate of White patients diagnosed with a UTI in 2019 vs 2020 (% diff 14.0 95% CI (-1.2, 29.0), $p=0.09$). There was not any significant difference in the age of those diagnosed with UTI in 2019 vs 2020 (mean diff 0.16 95% CI (-1.8, 1.4), $p=0.84$).

Asthma and Croup

There were significantly lower numbers of visits resulting in a diagnosis of asthma (including wheezing and bronchospasm) ($p<0.001$) and croup ($p<0.001$) in 2020 compared with 2019.

Asthma, bronchospasm, and croup were differentiated from viral upper respiratory infections because patients with these diagnoses are at risk for respiratory distress and have potential for needing a higher level of care.

Discussion

Early in the pandemic, in March and April 2020, stay-at-home orders were in place for Virginia. Several pediatric offices in southeastern and coastal Virginia were not seeing febrile children or those with respiratory illnesses, referring those children to the urgent care centers affiliated with the only pediatric hospital in the area. In this retrospective chart analysis, we examined the types of patients who presented for care to four pediatric urgent care centers based on chief complaint and ICD-10-CM during April 2020 and compared them with those who presented in the prepandemic period in April 2019.

There was a younger patient cohort who presented for care in April 2020. The percentage of the total visits was higher for fall injuries not related to sports and non-sports recreational activities and bite injuries during this early pandemic period, as well. Visits for respiratory illnesses such as asthma and croup were noted at lower rates compared with April 2019, similar to what has been shown in other studies.⁴⁻⁷

Limitations

Limitations of this analysis were that classification into

the subcategories (asthma, croup, SSTI, urinary complaints, and trauma) relied on the ICD-10-CM codes with the potential for misclassification. However, each chart was reviewed by two separate reviewers who looked at the ICD-10-CM codes as well as the chief complaint, with the third reviewer as the tie breaker if there was discordance. In addition, these data reflect those pediatric patients who sought treatment in the urgent care and do not reflect those who sought treatment in the emergency department, or who did not seek treatment at all. Hence, there may be an underestimation of specific diagnoses or their incidence during this time. However, other studies have shown a decrease in the pediatric ED visits during April 2020 and, as noted previously, many primary care offices were not offering in-person care for ill patients during this time.⁸

The study period compared patient visits from April 2019 and April 2020. April was chosen because it was the first full month of the COVID-19 pandemic lockdown. However, it should be noted that these data may not represent the variety of chief complaints that bring patients into urgent care throughout all months of the year.

In the early months of SARS-CoV-2, the greatest decline in ED visits nationwide was in the pediatric population.³ There are few data available from urgent care centers that see both adult and pediatric patients. Our data may not apply to all urgent care centers, especially those that also treat adults.

Finally, this retrospective analysis reflects pediatric urgent care data from one pediatric hospital's catchment area in southeastern Virginia and may not be generalizable to what occurred elsewhere in the U.S. during this time. However, this catchment area serves children in rural, suburban, and urban communities. In addition, this retrospective analysis was powered by the large sample size and with complete assessment of age, gender, race, ethnicity, and primary payer information. This assessment did not show a difference in the gender, race, ethnicity, or types of payers of the patients seeking care during these two time periods.

Conclusions

Our analysis of visits to four pediatric urgent care centers affiliated with a children's hospital in Virginia showed that there was an increased incidence of pediatric patients who presented with injuries caused by falls not related to sports or other recreational activities and for care of primarily animal bites during the early pandemic period of April 2020 compared with April 2019 (prepandemic period). Many of these falls and bite injuries occurred while at home, in younger children and with family

“Access to timely radiology imaging and interpretation, splinting materials, sutures, and other wound care supplies needs to be prioritized if future stay-at-home orders are instituted.”

pets, respectively. Unintentional falls were the leading cause of nonfatal ED visits in the U.S. in 2019, for infants and children ≤14 years of age (most recent year).⁹

Education of parents and caregivers of young children is warranted to raise awareness of the even greater potential for falls and animal bites when children are confined at home for longer than typical periods of time, as occurred during April 2020 with stay-at-home government orders during the initial period of the COVID-19 pandemic. More children accessed care for injuries at our urgent care facilities during the first month of the pandemic compared with the same month prepandemic. If future stay-at-home orders are instituted, resources including access to timely radiology imaging and interpretation, splinting materials, sutures, and other medical supplies related to wound cleaning and care need to be prioritized. ■

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ABSTRACTS IN URGENT CARE

- Quinolone Eardrops and Tendon Rupture
- Antibiotics and Sepsis in Neonates
- What Temperature Is Too High in Infants?
- Patient Literacy with Medical Terms
- Screen Time for Concussed Children
- Oseltamivir in Children with Influenza

■ IVAN KOAY, MBChB, FRNZCUC, MD

Quinolone Eardrops and Achilles Tendon-Related Outcomes

Take-home point: Quinolone eardrops were associated with an increased risk of all-type tendon rupture, including Achilles tendon (AT), but not AT tendinitis.

Citation: Tran P, Antonelli P, Winterstein A. Quinolone ear drops and Achilles tendon rupture. *Clin Infect Dis.* 2022; ciac709. Epub ahead of print September 6, 2022.

Relevance: Systemic quinolones have been known to increase the risk of tendon rupture. Prior studies have shown that otic administration may lead to systemic distribution of quinolones. However, the clinical implications of this have not been fully elucidated.

Study summary: This retrospective cohort study evaluated the risk for tendon disorders among adult patients treated with otic quinolones or alternative antibiotics using the MarketScan Commercial Claims Database, which provides medical encounter and outpatient pharmacy dispensing details for privately insured patients in the U.S. To minimize confounding, negative control outcomes including sports injuries and clavicle fractures were used.

The authors evaluated more than 1.5 million episodes of otic antibiotic administration. In the quinolone group, they found 6.17 cases of AT rupture per 100,000 episodes, 34.9 cases of Achilles tendinitis per 100,000 episodes, and 37.15 cases of all-type tendon rupture per 100,000 episodes. In the control group, there were 1.86, 31.3, and 22.12 cases per 100,000 episode, respectively. Hazard ratios for otic quinolone exposure were statistically significant for AT rupture (HR, 4.49; 95% CI, 1.83–11.02) and all-

type tendon rupture (HR, 1.71; 95% CI, 1.21–12.41), but not for Achilles tendinitis (HR, 1.04; 95% CI, 0.73–1.50).

Editor's comments: The study was retrospective in design and data were reliant on the assumption of accuracy of adjudicated claims and correct diagnosis coding. The outcomes of interest were rare, but given use of reasonable controls and statistically significant HRs for tendon rupture, increased caution with otic suspensions of quinolones is warranted. Further studies evaluating for any association of additional adverse effects associated with systemic quinolones and otic and/or ophthalmic administration are important for patient safety. ■

Neonatal Exposure to Antibiotics and Early-Onset Sepsis

Take-home point: Antibiotic exposure during the first week of life is disproportionate compared with the burden of early-onset sepsis (EOS), and wide variations in practice exist internationally.

Citation: Giannoni E, Dimopoulou V, Klingenberg C, et al. Analysis of antibiotic exposure and early-onset neonatal sepsis in Europe, North America, and Australia. *JAMA Netw Open.* 2022;5(11): e2243691.

Relevance: UC providers are responsible for antibiotic stewardship. While neonates do not present to UC frequently, it is important for providers to be familiar with changing practice recommendations for this vulnerable population.

Study summary: This was an international, cross-sectional, retrospective study investigating exposure to intravenous antibiotics in the first postnatal week in late-preterm and full-term neonates. Data were extracted from electronic health records, clinical information systems, databases of microbiology laboratories, and regional and national databases by investigators. The primary objective was to quantify antibiotic exposure, incidence of EOS, and mortality.



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The authors included more than 750,000 neonates, of whom 21,703 (2.86%) were started on intravenous antibiotics within the first postnatal week. The median (IQR) duration of antibiotic therapy was 4 (3-6) days for all newborns treated with antibiotics, 9 (7-14) days for those with EOS, and 4 (3-6) days for those without proven EOS. EOS was diagnosed in 375 neonates, leading to an incidence of 0.49 cases per 1,000 live births (95% CI, 0.45-0.55 cases per 1,000 live births). The number of deaths for all live births was 622, leading to an all-cause mortality rate of 0.82 per 1,000 live births (95% CI, 0.76-0.89 per 1000 live births). Fifty-eight neonates were treated with antibiotics for each single confirmed case of EOS. The overall mortality of EOS was 3.2%.

Editor's comments: This study was limited by retrospective design and varied data sources. However, it is clear that neonatal sepsis is rare, and mortality is even more uncommon. Despite these findings, the role of the UC provider is likely to be unchanged by this study in terms of disposition/emergency department referrals. We can educate families, however, to ask questions about the necessity of invasive testing, admission, and intravenous antibiotics. ■

How Hot is Too Hot for Infants with Fever?

Take-home point: Infants with temperatures lower than 38.2°C were significantly less likely to have a serious infection than those with higher temperatures. However, using this cutoff as an absolute criterion could result in missing serious infections.

Citation: Lam S, Chamdawala H, Friedman J, et al. A comparison of temperature thresholds to begin laboratory evaluation of well-appearing febrile infants. *Pediatr Emer Care.* 2022;38:628-632.

Relevance: In 2021, the American Academy of Pediatrics (AAP) published new clinical practice guidelines regarding evaluation of well-appearing febrile infants <60 days of age with a temperature threshold of 38.0°C (revised from the previous cutoff of 38.2°C). This paper looks at the practical significance of investigations of children at the lower threshold.

Study summary: This was a retrospective review of the dataset of the Application of Transcriptional Signatures for Diagnosis of Febrile Infants Within the Pediatric Emergency Care Applied Research Network (PECARN). The aim of the study was to determine the frequency of infants <60 days of age who subsequently are found to have serious infections after presenting to the ED with a temperature of 38.0°C or 38.1°C and to describe the characteristics of those infants compared with those with higher tempera-

tures. Serious infections were characterized as urinary tract infection (UTI), bacteremia, bacterial or herpes meningitis, bacterial pneumonia, or bacterial enteritis. The dataset used the Yale Observation Score (YOS) to objectively evaluate the clinical appearance of patients.

The authors identified 4,619 infants with a YOS of 10 or lower with 28.4% having rectal temperatures of either 38.0°C or 38.1°C. The probability of serious infection was not negligible for infants with temperatures 38.0°C or 38.1°C. Among those infants tested with at least one rectal temperature >38.2°C, 5.8% had a UTI, 0.8% had bacteremia, 0.4% had bacterial meningitis, 2.9% had herpes meningitis, 4.5% had pneumonia, and 4.8% had bacterial enteritis. Infants with low-grade temperatures were significantly less likely to have a UTI vs those with higher temperatures (relative risk (RR) = 0.62; 95% CI, 0.48-0.80) or bacteremia (RR=0.50; 95% CI, 0.25-0.97). There were no significant differences between those with lower or higher temperatures ($\geq 38.2^\circ\text{C}$) in the probability of bacterial meningitis, herpes meningitis, lobar pneumonia, or bacterial enteritis.

Editor's comments: Twenty-eight percent of patients were excluded from the study due to the lack of YOS scores. A fever was defined by a rectal temperature, and peripheral temperature measurements were not evaluated. There was a proportion of patients admitted to the study based on temperatures acquired at home per caregiver reports. To corroborate findings from the prior study, serious infections in the neonatal and young infant populations are rare, but the data do not suggest that lower-grade fevers can adequately exclude serious infection. ■

Do Patients Understand the Meaning of Medical Terms?

Take-home point: Common phrases are frequently misunderstood, and often interpreted to mean the opposite of what is intended.

Citation: Gotlieb R, Praska C, Hendrickson M, et al. Accuracy in patient understanding of common medical phrases. *JAMA Netw Open.* 2022;5(11):e2242972.

Relevance: Medical jargon is commonly used in clinical practice. It is important to consider how patients understand messaging when technical language is used.

Study summary: This was a cross-sectional study of the members of the general public interviewed while attending the Minnesota State Fair. A 13-question survey with a mix of open-ended and multiple-choice questions assessing understanding of common medical jargon was used. Multiple-choice responses were coded as correct or incorrect.

Free-text responses were coded for accuracy by two independent researchers, with a third researcher used as an arbiter in cases of disagreement.

The authors enrolled 215 volunteers who completed the survey (116 written, 99 verbal). There was mixed understanding of which phrases were meant to convey good news vs bad news. Some examples were that only 9% knew what “febrile” meant and only 2% of respondents understood the phrase “occult infection.” Increasing age was associated with increased understanding of “nothing by mouth” and “negative blood cultures” but decreased understanding of the term “impressive” in the context of radiography findings. The use of terms that mean something different in common usage than in a medical context, or *medicalized English*, was a frequent cause of confusion.

Editor’s comments: There was an element of selection bias, as participants enrolled were those that visited the university research building based in the fair, and a high proportion had attained higher education. Regardless, the study highlights how common expressions in medicine may have converse meanings in popular vernacular. ■

Restricting Screen Time for Concussed Children

Take-home point: Moderation in screen time may be helpful in facilitating recovery for children with concussion.

Citation: Cairncross M, Yeates K, Tang K, et al. Early post-injury screen time and concussion recovery. *Pediatrics*. 2022 Nov 1;150(5): e2022056835.

Relevance: Treatment and management of concussed patients has evolved in recent years, with newer data suggesting different approaches to the effects of exercise and screen time.

Study summary: This was a prospective, longitudinal, cohort study of pediatric patients who had sustained a concussion or orthopedic injury (OI), as a control population. Participants were recruited from five emergency departments within the Pediatric Emergency Research Canada. The Health and Behavior Inventory (HBI), was used as the primary outcome and the Healthy Lifestyle Behaviors Questionnaire (HLBQ) assessed parent-proxy and self-reported pre- and postinjury engagement in health behaviors, including physical activity and rest, cognitive activity and rest, diet, sleep, and screen time.

The authors recruited 633 participants and found the interaction between screen time and group was significant for parent-reported somatic symptoms or self-reported cognitive symptoms. The relationship between screen time

and group differences in postconcussion symptoms was not linear. Both lower and higher screen time was associated with more severe symptoms in the concussion group relative to the OI group.

Editor’s comments: The authors did not assess the timing, nature, or quality of screen time. Discrepancies between parental and self-reporting could not be verified by the authors. The relationship between screen time and concussion recovery appears complex, however, and this study does not support admonishment of all screen time. ■

Early Use of Oseltamivir in Children with Influenza

Take-home point: Early use of oseltamivir in hospitalized children was associated with shorter hospital stay and lower odds of 7-day readmission, ICU transfer, ECMO use, and death.

Citation: Walsh P, Schnadower D, Zhang Y, et al. Association of early oseltamivir with improved outcomes in hospitalized children with influenza, 2007-2020. *JAMA Pediatr*. 2022;176(11):e223261.

Relevance: Oseltamivir has been recommended for use in children with influenza by both the American Academy of Pediatrics and the Infectious Diseases Society of America, based on the results from treating outpatient adults. Data regarding its use in children have been limited.

Study summary: This was a multicenter, retrospective cohort study of children admitted to the hospital with influenza using the Pediatric Health Information System (PHIS) from 50 U.S. tertiary care pediatric hospitals. Primary exposure for the study was the early use of oseltamivir, while primary outcome was length of stay in hospital.

The authors identified 55,799 cases for analysis; 33,207 (59.5%) received early oseltamivir, defined as administration on hospital day 0 or 1. Children treated with early oseltamivir had significantly lower median LOS (3 vs 4 days), 7-day readmissions (3.5% vs 4.8%), late ICU transfer (2.4% vs 5.4%), and in-hospital mortality or ECMO use (0.9% vs 1.3%) compared with children not treated with early oseltamivir. Meta-analyses of outpatient treatment did not show a reduction in symptoms among patients with asthma.

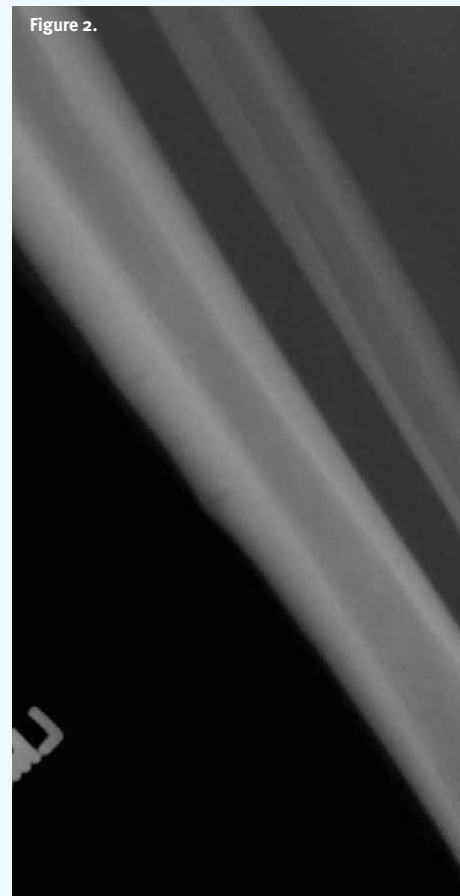
Editor’s comments: This study was restricted to outcomes among hospitalized patients. It remains unclear to what extent early oseltamivir affects clinical outcomes among pediatric outpatients with influenza. Shared decision-making regarding its use in children presenting to urgent care is likely the most clinically sound approach. ■



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

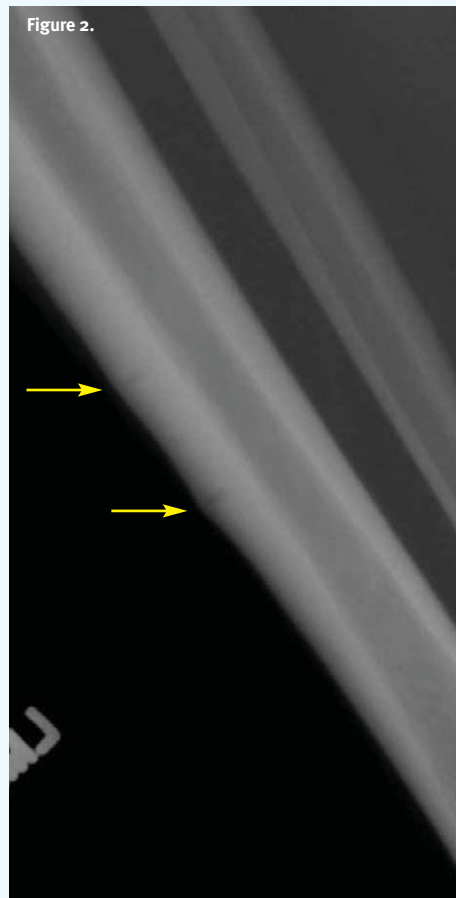
If you would like to submit a case for consideration, please e-mail the relevant materials and presenting information to editor@jucm.com.

A 28-Year-Old with Tibial Pain After Prolonged Exercise



A 28-year-old male presents complaining of anterior shin pain. He shares that he is a runner training for a marathon, and that the pain began toward the end of an 18-mile run. There was no direct trauma.

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



Differential Diagnosis

- Chronic exertional compartment syndrome (CECS)
- Periostitis
- Popliteal artery entrapment syndrome
- Tibial stress fracture

Diagnosis

The images show short segment, ill-defined cortical lucencies of the anterior tibial cortex with associated cortical thickening. This patient was diagnosed with anterior tibial stress fractures.

Learnings/What to Look for

- Stress fracture is an overuse injury, with tibial stress fractures seen often in military recruits and runners after a change in exercise routine
- When enough stress is placed on the bone, it causes an imbalance between osteoclastic and osteoblastic activity and a stress fracture may appear

Pearls for Urgent Care Management

- Treatment is commonly activity restriction with protected weightbearing and pain management
- Surgical intramedullary nailing may be considered for severe situations

Acknowledgment: Image and case presented by Experity Teleradiology (www.experity.com/teleradiology).



A 7-Year-Old Boy with New Facial Rash



A woman brings her 7-year-old son to the urgent care center with a rash that had developed “over the past few weeks.” On examination, there are smooth, pink papules around the mouth. The mother reports that the patient has a history of asthma, for which he uses inhalation

budesonide daily as maintenance therapy. Otherwise he is healthy, has no systemic symptoms, and is well-appearing.

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

Figure 2.

**Differential Diagnosis**

- Acne vulgaris
- Coxsackie virus
- Molluscum contagiosum
- Perioral dermatitis of childhood
- Lip licker's eczema

Diagnosis

This patient was diagnosed with perioral dermatitis of childhood, also called periorificial dermatitis. This is a benign inflammatory eruption characterized by erythematous papules and pustules around the mouth.

Learnings/What to Look for

- Lesions are typically clusters of erythematous or skin-colored papules, vesicles, and/or pustules. They are often asymptomatic but may be mildly pruritic
- Development of perioral dermatitis is often preceded by exposure to topical corticosteroids. Use of mask-delivered inhaled corticosteroids is a common cause in young children

- Various cosmetic products, including fluorinated toothpastes, have also been reported as potential precipitants of this condition
- Unlike periorificial dermatitis, perioral coxsackie disease is often associated with rash elsewhere on the body sometimes with fevers, oral ulcers, or diarrhea. Lip-licker's eczema features dry, irritated skin well demarcated around the lips without discrete papules or vesicles. Molluscum contagiosum lesions are typically smooth, dome-shaped papules and are rarely in a perioral distribution

Pearls for Urgent Care Management

- Treatment is often initiated with topical antibiotics, such as metronidazole, clindamycin, erythromycin, or sulfacetamide
- Topical nonsteroidal anti-inflammatory creams may reduce inflammation

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



A 52-Year-Old Male with Shortness of Breath and a History of Multiple Cardiologic Issues

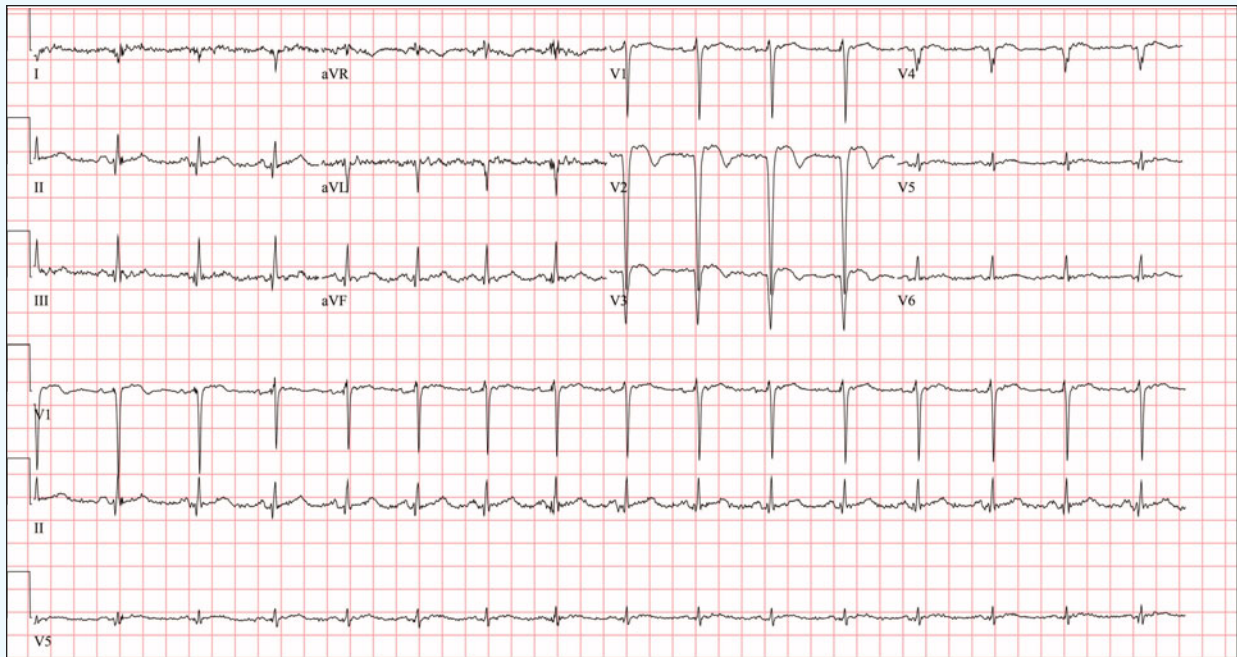


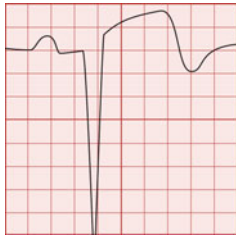
Figure 1. Initial ECG

A 52-year-old male with a history of hypertension, hyperlipidemia, and recent myocardial infarction (1 month ago) presents to urgent care with shortness of breath for the past week. He denies fever, chest pain, or cough. On examination, the patient is breathing comfortably and saturating well on ambient air.

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

(Case presented by Tom Fadiat, MD, McGovern Medical School at UT Health Houston Department of Emergency Medicine.)

Figure 2. ST-Segment Elevation and Large Q-Waves Associated with LV Aneurysm



Differential Diagnosis

- Myocardial infarction
- Left ventricular aneurysm
- Hypertrophic cardiomyopathy
- Wellens syndrome
- Brugada syndrome

Diagnosis

This patient was diagnosed with left ventricular aneurysm.

The ECG shows a normal sinus rhythm at a rate of 96 bpm. There is rightward axis deviation and intervals appear normal. Finally, there is ST-segment elevation in leads V2 and V3.

An acute myocardial infarction is always the leading concern for a patient with ST-segment elevation. In this case, the patient has no chest pain, and his symptoms are both subacute and mild. His presentation allows for a more comprehensive consideration of the differential for ST-segment elevation.

We note that the ST-segment elevations are preceded by large Q-waves. In the reported context of recent MI this is highly suggestive of a left ventricular aneurysm. (See Figure 2.)

In the absence of reperfusion therapy, left ventricular aneurysm is a common structural complication of acute MI, occurring in 35% to 64% of patients with anterior acute MI.^{1,2} Usual ECG findings of left ventricular aneurysm include ST-segment elevation that persists more than 2 weeks after STEMI, deep Q waves, and the absence of reciprocal ST-segment depressions. However, these features are neither sensitive nor specific for left ventricular aneurysm.³ The less-than-expected T-wave amplitude relative to the QRS can be quantified using “proportionality” formulae, further supporting the diagnosis of LV aneurysm. (See Table 1.)

Importantly, neither rule’s test characteristics are sufficient to rule out ST-elevation MI in a symptomatic patient.

Hypertrophic cardiomyopathy is the most common cause of sudden cardiac death among individuals under 40 years of age, and a cause of outflow obstruction. ECG findings include left ventricular hypertrophy, T wave inver-

Table 1. LV Aneurysm Rules

Rule #1	$\frac{\text{sum of T wave amplitudes } V_1+V_2+V_3+V_4}{\text{sum of QRS amplitudes } V_1+V_2+V_3+V_4} > 0.22$
Rule #2	$\frac{\text{T wave amplitude}}{\text{QRS amplitude}} \text{ In any lead } V_1, V_2, V_3, \text{ or } V_4 \geq 0.36$
Rule #1 ~87% accuracy, Rule #2 ~89% accuracy.	

sions (especially in lateral leads), and narrow, “dagger” Q waves in the lateral leads (I, aVL, V5, V6).

Wellens syndrome is a syndrome of characteristic ECG findings—biphasic T waves (up then down) or deeply inverted and symmetric T waves in the anterior precordial leads V1-V3; in the correct clinical context, that suggests a critical stenosis of the left anterior descending artery.

Brugada syndrome is a sodium channelopathy with a characteristic ECG pattern (ST-segment elevation of ≥ 2 mm with a coved-type morphology in ≥ 1 right precordial lead) and an increased risk of sudden cardiac death, in the absence of gross structural heart disease.⁴

Learnings/What to Look for

While the differential diagnosis for ST-segment elevation is broad, immediate stabilization and management of MI should be the priority for any patient with typical symptoms. In the context of recent myocardial infarction, it should be noted that left ventricular aneurysm, a delayed complication, can be associated with ST-segment elevation.

Key points to consider include:

- ST-segment elevation in precordial leads occurring > 2 weeks after a myocardial infarction
- Associated with large Q-waves
- Low-amplitude T-waves identified visually or using “proportionality” formulae

Pearls for Urgent Care Management

This patient’s symptoms may be attributable to mild heart failure. He warrants transfer for echocardiography to confirm the diagnosis of LV aneurysm suspected based on his ECG and identification of complications such as LV thrombus.

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

ECG STAMPEDE



Tips for Payer Reviews

■ MONTE SANDLER

Insurance plans are scrutinizing claims more than ever before. Common questions from our clients are: What does this mean? What should I do? Should I be worried?

Generally, there are three types of payer reviews: prepayment, postpayment, and probe. The first step is to figure out what type of review it is. What you do and how you handle the review is dependent on that information.

Should you be concerned? Always. Payer reviews need to be taken seriously and addressed properly. The level of concern is different for each one.

Prepayment Reviews

Level of concern: Low

Prepayment reviews occur when your practice's claim data are analyzed by the payer and a provider has been identified as an outlier. For example, Dr. Jones is billing more level 4s than other providers of the same specialty in your area.

Practices are notified by letter stating which provider and which codes will require a review prior to adjudication of the claim, with the date the prepayment review takes effect. Claims for the provider with codes under review require that 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.

Payers review the medical record and either adjudicate the claim (if they agree with the coding) or deny (if they disagree with the coding). Often, a practice will receive detailed letters as to why the reviewer did not agree with the coding. Resources for education may be included.

The payer will take the practice off prepayment review when the payer has received a specific volume of claims with a specific threshold of accuracy. For example, hypothetically, a practice may be required to submit 500 claims with an accuracy threshold of 95%.



What should I do?

1. Work with your billing team to make sure the initial claims are being submitted with medical records. Make sure they have the criteria of which claims require medical records. It won't be 100% of your visits.
2. Ask the reviewer what threshold and volume of claims are required to satisfy prepayment review. Call the number on the prepayment review letter, not the regular claims representative number. Most likely, the claims representative will not know that your practice is on prepayment review.
3. Compare your data with other urgent cares. If your billing team doesn't have this data, consider reaching out to a consultant.
4. Look at your results and identify claims to appeal or areas for improvement. Be objective. The insurance plan will not always be right, and neither will your practice. Choose the claims to appeal wisely. If it is a gray issue where you can see the payer's point, it may be a better idea to submit a lower-level code for payment.
5. Be proactive. Take the results, after your medical team reviews, and educate providers on how they might improve their documentation to properly reflect the level of care delivered.

If you have been on a prepayment review for months, reach out to the payer to see what can be done. The practice may need to change their behavior to see better



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results. This doesn't necessarily mean lowering your levels; rather, you may need to improve your provider documentation.

Postpayment Review

Level of concern: Moderate

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 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 conclude 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. Pay attention to the deadline in the letter. Failure to provide documentation will result in the payer requesting their payment back.

A payer may give you only one appeal opportunity, so it's better not to squander that with having to prove your practice performed the service. Rather, you want to use the appeal to defend your coding.

What should I do?

1. Pull the records and submit by the payer's deadline. Include all supporting documentation (ie, laboratory results or radiology reports).
2. Be patient. It may be longer than 6 months before you hear the results of the review.
3. Review every claim that the payer counted as an error. If the number of claims is high, consider using an external auditor with experience in urgent care to perform this review.
4. Involve your medical team. The current Evaluation and Management (E/M) guidelines were written for medical providers and can be subjective. For example, take the element Risk of Complications and/or Morbidity or Mortality of Patient Management. The American Medical Association offers little guidance beyond a few examples in their medical decision-making matrix. However, these are not meant to be absolutes. Ultimately, the management risk is what is understood by providers of your same specialty. The individual that reviewed the claims for the payer may have no experience with urgent care. This is where the medical team can assist with identifying the visits to appeal and the rationale for your appeal.
5. Pay attention to the appeal deadline. If you need more time, call and request an extension from the special in-

“Don't panic, but take these reviews seriously. Be organized and perform your own review focused on defending your coding...and creating a learning opportunity for provider documentation and coding/billing processes going forward.”

investigator listed on the letter.

6. Negotiate. Your practice may have to send some amount back to the payer. However, usually the payer will ask for the full payment back. If the payer has agreed that your practice was entitled to payment yet at a lower level and you agree, offer to send back the difference only.
7. Use this as an opportunity to improve your documentation and educate your providers.

Probe Review

Level of concern: High

Probe reviews happen when a payer notices an unusual pattern in your claims data. The letter you receive will look similar to a postpayment review letter. The dates of service will be current, however. The letter may even say it is a probe review. Usually, these are provider-, not practice-specific.

What should I do?

1. Pull the records and get them to the payer by the deadline in the letter.
2. Don't wait for the payer to send you the results. That could be months. Have a coding/billing expert review the sample of claims requested to identify any red flags.
3. Research and, if needed, correct any mistakes that your expert identifies on a go-forward basis. Claims that have already been billed should be addressed with the special investigator at the insurance plan after the results are received.

Bottomline: Don't panic, but take these reviews seriously. Be organized and perform your own review focused on defending your coding, where applicable, and creating a learning opportunity for provider documentation and coding/billing processes going forward. Be prepared to respectfully advocate for your practice. ■



COVID-19 Has Had a Strong Impact on Pediatric Presentations—Well Beyond the Virus Itself

The effects of SARS-CoV-2 itself on various populations in the United States and internationally have been well-documented. Likewise, an ever-growing number of studies have measured the effects of the pandemic on healthcare, the workforce, children’s education...and on and on.

One fact that has been largely overlooked: While social distancing and mask mandates helped reduce spread of COVID-19, with the unintended benefit of reducing the number of cases of other infectious diseases, they did nothing to prevent the “normal” mishaps of everyday life. People still got into car accidents, slipped and fell on the ice, and got food poisoning.

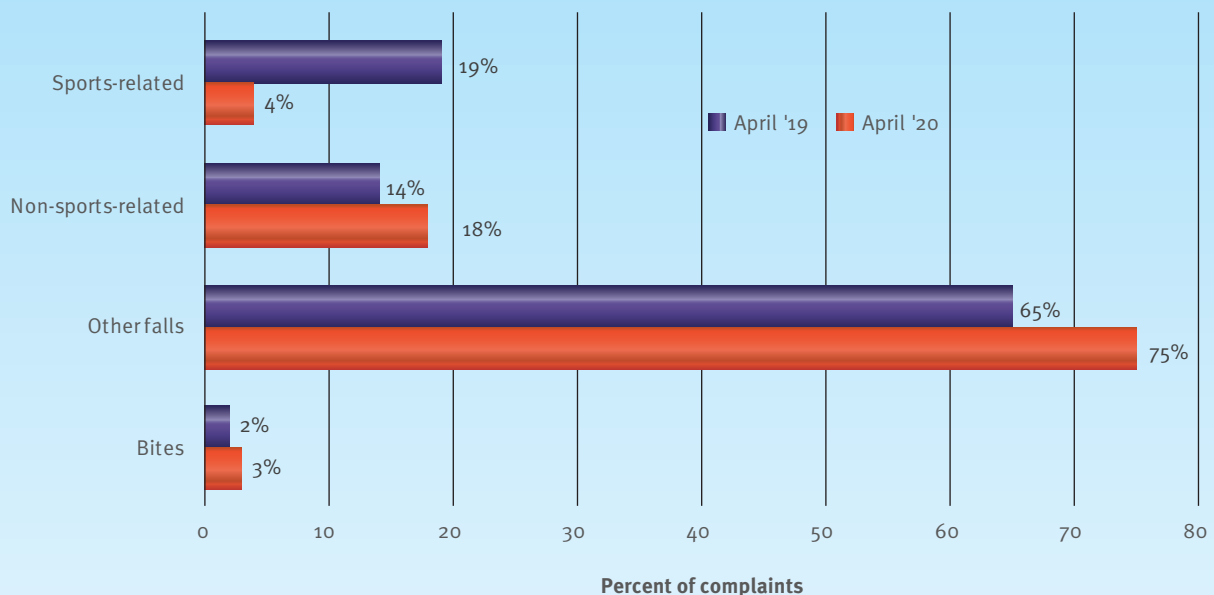
The same goes for children, who may have been prevented from interacting at school or playing sports for a

time but still had ample opportunity at home to injure themselves in any number of creative ways. And the effect that had on the nature of presentations to emergency rooms and urgent care centers is interesting, as noted in a study conducted by researchers at Children’s Hospital of the King’s Daughters in Virginia.

Sports injuries dropped, while traumas unrelated to sports as a percentage of all presentations increased nearly fivefold. Even bite injuries increased somewhat.

Check out the graph below (and read A Comparison of Chief Complaints, Specific Diagnoses, and Demographics of Pediatric Urgent Care Visits Before and During the COVID-19 Pandemic: A Retrospective Study on page 32) for more details. ■

TRAUMA CHIEF COMPLAINTS—BEFORE VS DURING THE COVID-19 PANDEMIC



Source: Viennas ZA, Martin J, Klick B, Speerhas T, Vazifedan T, Millspaugh D, Ferris J, Bedle M, Paluch L, Guins T. A comparison of chief complaints, specific diagnoses, and demographics of pediatric urgent care visits before and during the COVID-19 pandemic: a retrospective study. *J Urgent Care Med.* 2023;17(5):32-35



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