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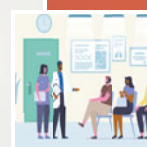
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CLINICAL **cme**

Fever, Chills, Body Aches... Is It Flu—or Potentially Deadly Sepsis?

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Environment Could Literally Be a
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and a Difficult Diagnosis
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Trigger Finger: More Digits = More
Complexity—and Greater Risk



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Keep Your Differential Broad, Especially During Flu Season



I'm phenomenally bad at gambling for a multitude of reasons. I bet small when I should bet large. I bet large when I shouldn't even be playing the game. I'm especially terrible at roulette because when I pick a number, usually 22, I stick with it—much longer than I should. Each time the wheel stops, on any other number, I'm disappointed, sure. But that disappointment is quickly replaced with hope that the odds of lucky 22 coming up next time must be better. In other words, I feel that I'm due. And with every non-22 spin, I become more and more certain that the odds of 22 coming up next must be increasing.

This represents a form of cognitive bias commonly referred to as the Gambler's Fallacy, for obvious reasons. The Gambler's Fallacy is a type of mental trap that urgent care providers should make themselves intimately familiar with or ignore at their own peril. It centers around the belief, conscious or unconscious, that prior results predict future occurrences. And while the Gambler's Fallacy can prove costly on the casino floor, it can be deadly when operant in UC—especially during flu season.

So, what specifically is the danger of the Gambler's Fallacy? Imagine you're working a busy clinical shift during February or March. You've seen 30 patients, 90% of whom have some combination of cough, sore throat, runny nose, and headache. Some report fevers, others don't. Some may even mention difficulty breathing or chest pain.

You're now seeing patient number 31, a 45-year-old man who reports having a cough, fevers and chills, difficulty breathing, and malaise. Certainly infective endocarditis, pneumonia, pulmonary embolism, and ACS/CHF would be on your differential if this patient presented in July. However, it is human nature for the Gambler's Fallacy (like any cognitive bias) to manifest itself more forcefully during times of mental fatigue (eg, after seeing 30 URIs).

At the end of a long day during the winter months, even the most experienced providers will generally find themselves jumping to a diagnosis of influenza when seeing a patient like this. And, perhaps after getting a CXR to exclude pneumonia, discharging the patient without a thought of

things like endocarditis or sepsis. Certainly, there's more flu in the wintertime, so we're more likely to be right when we guess flu than in other seasons. The problem arises, however, when we guess wrong.

Influenza can be dangerous, especially in higher-risk patients, but is most commonly a self-limited week of misery. However, the symptoms of influenza are highly non-specific and overlap broadly with a long list of infectious and noninfectious life-threatening diseases.¹ Many of these serious conditions (eg, endocarditis, urosepsis, and thyroid storm) show no seasonal variation. However, remembering to consider such conditions during flu season presents a challenge for UC providers who, in turn, are experiencing the most mental fatigue themselves during this busy time of year.

Consequently, this often leads to misdiagnoses on initial presentations for these noninfluenza illnesses and subsequent delays in appropriate care. For example, in one epidemiological study by Chen, et al,³ patients were nearly twice as likely to have heart failure present at the time of diagnosis of infective endocarditis during the winter months. To further complicate the situation, the incidence of certain influenza mimics, such as pulmonary embolism and acute coronary syndrome, also increases during cold and flu season.^{2,4}

From a patient's perspective, developing a condition that mimics the flu in the wintertime is not ideal (not that there's ever a perfect time to be bacteremic). To make matters worse, patients easily succumb to their own set of cognitive biases: They think it's the flu. Everyone has the flu. They don't want it to be anything serious. So, when they do come into urgent care seeking mostly reassurance, we are often all too ready to simply oblige and move on. However, if we are wrong and miss a serious diagnosis, the consequences can be fatal.

So, what can be done to minimize the risk to the provider and patient of the Gambler's Fallacy leading to misdiagnoses and poor outcomes? Allow me to suggest three simple, high-yield strategies which can easily be implemented on your next shift:

1. **Pay attention to vital signs.** As the axiom goes,

LETTER FROM THE EDITOR-IN-CHIEF

"They're called vital signs for a reason." Hypotension, hypoxemia, severe tachycardia, and/or tachypnea are suggestive of either serious influenza infection or an alternate diagnosis. Regardless, these patients should be immediately referred to a full-scope ED.

- 2. Ask for the patient's most prominent symptom and construct a differential around this.** For example, if a patient is most bothered by headache, focus on presence or absence of neck rigidity and altered mentation to ensure you're not missing meningitis. If a patient is having vomiting and abdominal discomfort, palpate their abdomen carefully to ensure there is no focal tenderness. If they have a sore throat, evaluate for trismus and drooling. In short, simply make sure you're listening to the patient's actual chief complaint.
- 3. Get a flu test.** The newest generation of nucleic acid amplification testing (NAAT) point-of-care influenza testing used in most UCs has much-improved sensitivity and can exclude influenza with reasonable certainty. The specificity of NAAT flu tests is also excellent and, therefore, a positive test essentially rules in the flu. While there are a litany of self-limited noninfluenza viral illnesses, patients with negative flu testing in whom there's reasonable clinical concern for one or

more other dangerous conditions warrant additional work-up emergently.

These techniques can mitigate the Gambler's Fallacy all through the same simple mechanism: They force us to pause in the midst of our busy clinic days and ask ourselves, "What else could this be?" It turns out—a lot. And even though it's the winter, remember all that shivers is not flu. ■



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IN MEMORIAM: PETER ROSEN, MD



It's a popular, but trite, tribute to say someone "wrote the book on [fill in the blank]." It's usually not a statement of fact, however.

A rare exception would be to say, "Peter Rosen wrote the book on emergency medicine" because, in fact, Peter Rosen, MD really was responsible for the first comprehensive textbook in emergency medicine (*Rosen's Emergency Management: Concepts and Clinical Practice*, the first edition of which was published in 1983).

A longstanding advocate for emergency medicine even before that, he's credited by some as being instrumental in seeing that discipline recognized as a proper specialty.

It's no surprise, then, that when the founders of *The Journal of Urgent Care Medicine* set out to form their first Advisory Board,

Dr. Rosen was at the top of the wish list. We invited him, he graciously accepted, and we were proud to have his name on our Masthead from that first issue until his death. He even flattered us by serving as a peer reviewer from time to time—though the argument could be made that he was peerless.

Dr. Rosen died at his home in Tucson, AZ on November 11, 2019. He was 84 years old.

Since then, his contributions to the practice of medicine have been lauded by every conceivable EM body in the United States, as well as the medical schools he was affiliated with over the years (Harvard University and the University of Arizona prominent among them). We would be remiss if we didn't do the same, and thank him posthumously for lending significant academic weight and goodwill to a fledgling publication. We're pleased and fortunate to have been associated with him. ■

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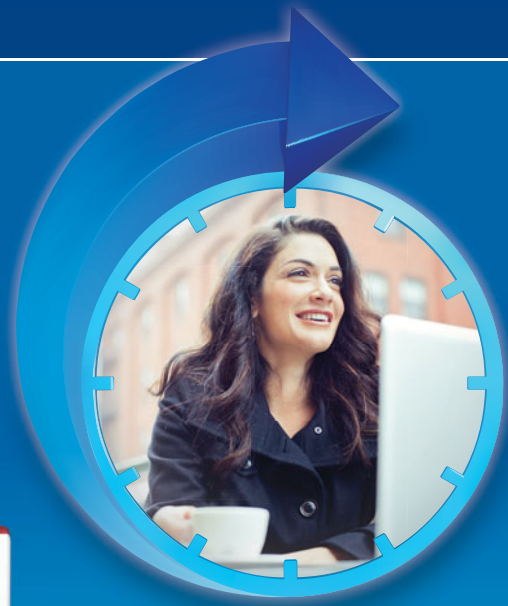


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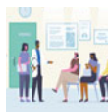
13 Urgent Identification and Management of Postsplenectomy Sepsis

Patients with sepsis—risk for which increases dramatically in asplenic individuals—are likely to present with flu-like symptoms. Fail to take a thorough history and you could miss essential details that would inform the correct diagnosis.

Megan L. Lawson, PA-C and Christina Gardner, DHSc, MBA, PA-C

PRACTICE MANAGEMENT

17 Smoothing Ebb-and-Flow for Greater Staff Efficiency and Shorter Wait Times in Urgent Care



Efficiency and short wait times are core attributes in urgent care. Your ability to deliver on patient expectations in that area will be essential to their satisfaction—and your survival.

Alan A. Ayers, MBA, MAcc

HEALTH LAW AND COMPLIANCE

21 What Urgent Care Operators Need to Know About OSHA



The Occupational Health and Safety Administration has rules—lots of rules—employers must follow. You can't know all of them, but you have to know the most relevant if you're going to have a safe—and compliant—workplace.

Alan A. Ayers, MBA, MAcc

CASE REPORT

31 A Blistering Rash in an Otherwise Healthy 9-Year-Old Boy



Impetigo is one of the most common skin infections in children, but it can have a variable presentation. Your ability to eliminate other possible diagnoses is essential to ordering the right treatment today.

Aimy T. Patel, MD, FAAP, Allison Burris, MD FAAP, and Nirav Shastri, MD, FAAP, FAMIA, ABMS-CI

CLINICAL

35 Evaluation and Diagnosis of Trigger Finger with Current Management Strategies



Diagnosing trigger finger can be a fairly straightforward process—unless more than one digit is involved. Your prospects of getting it right the first time go up if you start by differentiating that diagnosis from other disorders of the hand.

Alexander M. Stock, MD and Sheilendra K. Saxena, MD, PhD

IN THE NEXT ISSUE OF JUCM

“Sore throat” is the quintessential urgent care complaint. It's not all about strep, though. There are a lot of “mimics” out there. Especially in these days of increased focus on antibiotic stewardship, it's essential to make the right diagnosis—and it's not always the obvious one. Read all about it in the March issue of *JUCM*.

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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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You don't need to read *JUCM* to know it's flu season. But you may do well with a reminder that many patients presenting with influenza symptoms don't have the flu, no matter what time of year it is. (As Dr. Joshua W. Russell notes in this issue's Letter from the Editor-in-Chief, flu season may be the most important time to keep a broad differential in mind, lest you assume that flu-like complaints *must* be flu.)

Even if you do follow that sage advice, sepsis might not spring to mind right away. And yet, as you'll see in Urgent Identification and Management of Postsplenectomy Sepsis (page 13), by **Megan L. Lawson, PA-C** and **Christina Gardner, DHSc, MBA, PA-C**, failing to consider it in a patient who presents with complaints often attributed to influenza could prove to be a deadly oversight.



The authors use the case of a 45-year-old man who lost his spleen due to a motorcycle accident years ago to illustrate this concept. He presented to an urgent care center complaining of chills, body aches, and fever. Had the splenectomy not come to light in the history, and had the providers not associated that with the fact that asplenic individuals are at much greater risk for sepsis, the outcome could have been disastrous.

Ms. Lawson is an urgent care provider for Carilion Clinic, where she also completed the ACP Fellowship in Urgent Care and Rural Health. Ms. Gardner is the fellowship director for that program, a practicing PA at Carilion, and director of clinical education for the Radford University Carilion PA Program.



A broad differential also figures into this issue's Case Report, concerning the care of a child who presented with a sudden rash that could



have been an allergic reaction to any number of things. It wasn't, however, as a thorough assessment by his urgent care providers confirmed. A Blistering Rash in an Otherwise Healthy 9-Year-Old Boy, by **Aimy T. Patel, MD, FAAP**, **Allison Burris, MD, FAAP**, and **Nirav Shastri, MD, FAAP, FAMIA, ABMS-CI**, starts on page 31.

Dr. Patel is assistant professor of pediatrics at the University of Missouri Kansas City School of Medicine, Children's Mercy Kansas City. Dr. Burris is assistant professor of pediatrics, University of Missouri Kansas City School of Medicine, Children's Mercy Kansas City. Dr. Shastri is director, informatics and scholarly activities, Department of Pediatrics, Division of Emergency Medicine, Children's Mercy Kansas City ED.

Initial diagnostic uncertainty turned out to be a common theme in our original clinical content this month. In Evaluation and Diagnosis of Trigger Finger with Current Management

Strategies (page 35), authors **Alexander M. Stock, MD** and **Shailendra K. Saxena, MD, PhD** note that what is usually a relatively straightforward diagnosis can be complicated by any number of factors (in this case, the fact that multiple digits were involved).

Dr. Saxena is a professor at Creighton University Medical School, from which Dr. Stock is a graduate. He was a medical student there at the time the article was submitted.

Another common theme in urgent care—and certainly not just in this issue of *JUCM*—is the necessity to ensure that patients experience the efficiency they expect when they visit an urgent care center. If they don't receive it, it's unlikely they'll visit your facility again. In Smoothing Ebb-and-Flow for Greater Staff Efficiency and Shorter Wait Times in Urgent Care (page 17), **Alan A. Ayers, MBA, MAcc** suggests that urgent care operators can effect smooth queue management by embracing and judiciously implementing the right technologies. The reward will be a well-run operation and a happy (presumably loyal) customer base.



Mr. Ayers, who is chief executive officer of Velocity Urgent Care and practice management editor of *JUCM*, also penned this issue's Health Law and Compliance feature. In What Urgent Care Operators Need to Know About OSHA (page 21), he reminds us that urgent care centers are places of employment where workers are assured certain safeguards and protections under the law, as governed by the Occupational Safety and Health Administration.

In Abstracts in Urgent Care (page 28), **Yijung Russell, MD** offers succinct, urgent care-relevant synopses of newly published articles on topical TXA vs Merocel in anterior epistaxis; a truly natural way to reduce the need for skin graft in pediatric burn patients; how much (or how little) oral ibuprofen is needed to provide adequate pain relieve; and more. Dr. Russell practices in the Department of Emergency Medicine at Amita Health Resurrection Medical Center in Chicago.

Finally, in Revenue Cycle Management (page 46), you can get a peak at the most important updates in the 2020 CPT code set. There were 248 additions, 71 deletions, and 75 revisions all told, so we're grateful to **Monte Sandler**, executive vice president, revenue cycle management at Experity, for drawing out those that will matter most to urgent care operators.

Call for Peer Reviewers

In addition to the contributors above, we count on your fellow urgent care professionals to review and comment on articles so we can ensure our content is relevant, bias-free, and well-presented. If you would like to join our peer review panel, send an email with your CV to editor@jucm.com. ■



CONTINUING MEDICAL EDUCATION

Release Date: February 1, 2020
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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

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The Urgent Care Association designates this journal-based CME activity for a maximum of 3 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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CONTINUING MEDICAL EDUCATION

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Urgent Identification and Management of Post-splenectomy Sepsis (page 13)

- 1. Patients are at highest risk for severe infection leading to sepsis in the first 1–2 years postsplenectomy. The overall increased risk lasts:**
 - a. No more than 2 years
 - b. 5–10 years
 - c. 10–15 years
 - d. A lifetime
- 2. The immune function of the spleen is to help clear encapsulated bacteria from the body, including:**
 - a. *Streptococcus pneumoniae*
 - b. *Neisseria meningitidis*
 - c. *Haemophilus influenzae* type b
 - d. All of the above
- 3. Which three vaccines target the infections which asplenic patients are especially prone to?**
 - a. Hib, influenza, and MMR
 - b. Influenza, MMR, and pneumococcal
 - c. Pneumococcal, Hib, and influenza
 - d. Pneumococcal, Hib, and meningococcal

Smoothing Ebb-and-Flow for Greater Staff Efficiency and Shorter Wait Times in Urgent Care (page 17)

- 1. Which of the following is *not* one of the key factors addressed by a fully optimized queue management system?**
 - a. Functional shifting
 - b. Frictionless transactions
 - c. Enhanced clinical outcomes
 - d. Wait time perceptions
- 2. *Functional shifting* in the context of an urgent care queue management system reassigns routine data entry tasks to:**
 - a. The patient
 - b. The newest staff member
 - c. The most experienced staff member
 - d. The person who greets a given patient

3. Studies have shown that people have greater tolerance for a longer wait that is:

- a. Filled with entertainment options (eg, fresh reading materials or a television in the waiting room)
- b. “Compensated” for with discount coupons for area restaurants
- c. Clearly explained to them by a staff member
- d. Spent in the company of people who have been waiting even longer

A Blistering Rash in an Otherwise Healthy 9-Year-Old Boy (page 31)

- 1. Primary lesions associated with bullous impetigo tend to last:**
 - a. With treatment, 7–10 days
 - b. 10–14 days
 - c. 30 days
 - d. A lifetime
- 2. Bullous impetigo is caused by:**
 - a. *Staphylococcus aureus*
 - b. *Staphylococcus epidermidis*
 - c. *Haemophilus influenzae*
 - d. Any of the above can cause bullous impetigo

3. Treatment of nonbullous or bullous impetigo includes which of the following?

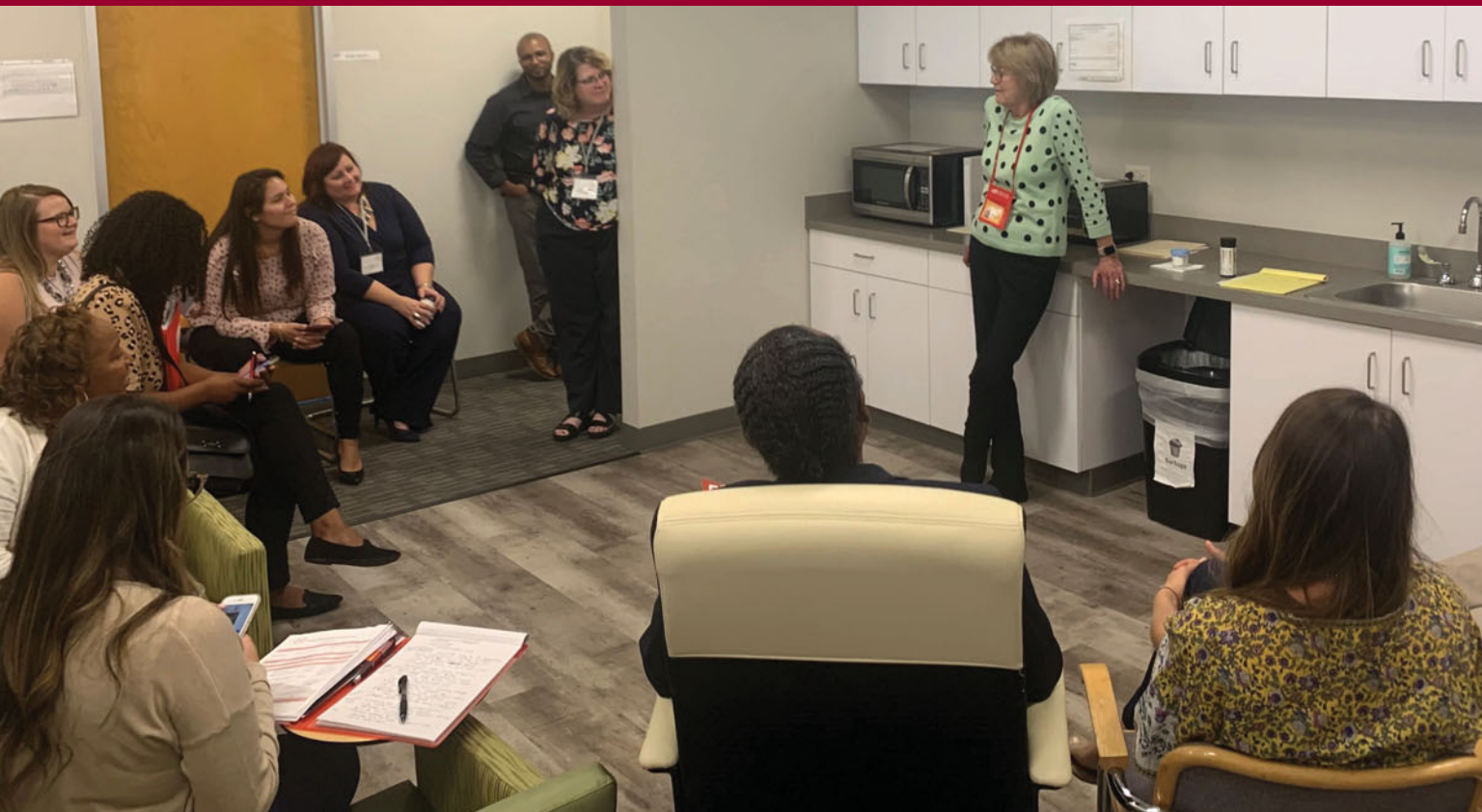
- a. Topical antibiotics
- b. Oral antibiotics
- c. Disinfectant solution
- d. All of the above



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Not Like Old Times

■ LOU ELLEN HORWITZ

The first time I wrote this column was for the inaugural issue of *JUCM* in October 2006. Today I could reflect on how much has changed around us, yet how much has stayed the same, but you know...no one really cares about what's happened since 2006.

What we really care about is today, and tomorrow. What's happening right NOW, and what's going to happen NEXT. And that's the inspiration for the 2020 Convention.

Yep, I'm using my guest spot in the CEO column to talk about UCA2020, because we'd like to blow the lid off the Convention this year and it's going to be amazing. It's already the biggest and best, but can we push it to 1,000 people? I think we can. #BHAGS!*

In the brochure we've claimed an "almost completely different" gathering, but what does that mean?

Our Keynotes and General Sessions are all about disruption, reframing, and deployment and feature out-of-the-box thinkers, from inside *and outside* healthcare.

Our PreConvention courses are also all new:

- **Suturing and Splinting** provided in collaboration with Master Clinicians
- **End-to-End Patient Experience** featuring experts from the Studer Group, Solv, and Experity
- **The Only Marketing Workshop You'll Ever Need** featuring urgent care marketing thought leaders and innovators
- **Clinic Startup Reinvented** for the realities of opening a new center or expanding in 2020
- **Accreditation Workshop** to discover how to obtain or maintain UCA Accreditation

Our Main Convention "tracks" break into four options (mix and match as you like):

- The **(Not so) Usual Clinical** track featuring the team from HIPPO Education (UC Rap and UC Bootcamp), live



Lou Ellen Horwitz is a UCA Board Member and UCA2020 Convention program chair.

UCA2020

UCA2020 will take place May 3-6 at the Paris Hotel in Las Vegas. For more information or to register, visit: <https://www.ucaoa.org/Education/Events/Convention-Expo>

demos, ECG courses, ophthalmology with Will Flanery, MD (also known as Dr. Glaucomflecken), best care for LGBTQ patients in urgent care, and more

- The **Tools, Pediatrics and Patients** track features five pediatric sessions from Children's Mercy Hospital UC experts, travel medicine with Dr. Donald Herip, point-of-care ultrasound with Will Gluckman, DO, MBA, FACEP, CPE, FCUCM, and a world without antibiotics from author Maryn McKenna
- **NOW: Operational Excellence** focuses on the nuts and bolts of running a successful urgent care today. Sessions (with many new speakers) include better onboarding, financial modeling for new services, revenue cycle oversight, regulatory changes, and more. Most count for our CUCMP designation, and also *include bonus content post-convention for all attendees*
- **NEXT: Advanced Innovations** takes us into the future of strategy development, provider engagement, emerging technologies, care models and payment mechanisms, leadership, hospitality, marketing, and the next wave of mergers and acquisitions. This track's format has lots of interaction and not much PowerPoint—we'll even have a group "hackathon" on urgent care's biggest challenges.

Lastly, it's just going to be tons of fun (even if you are an introvert like me). Seeing old friends, making new connections, celebrations, games, giving back, splurging a little, dancing, hanging out in the new quiet room, staying up late and getting up early anyway, prizes, and surprises.

With all of that, I'm pretty sure we are going to hit 1,000—we're already well on the way. Come join me.

*Big hairy audacious goals ■

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Urgent Identification and Management of Postsplenectomy Sepsis

Urgent message: Asplenic individuals have a rate of severe infections two-to-three times higher than the general population. Postsplenectomy sepsis should be considered in patients with impaired splenic function who present with a fever.

MEGAN L. LAWSON, PA-C and CHRISTINA GARDNER, DHSC, MBA, PA-C

Case Presentation

A 45-year-old male presented to the urgent care with 18 days of sinus pain and congestion unresponsive to two courses of antibiotics, cefdinir and levofloxacin. Past surgical history revealed a splenectomy 20 years ago after a motor vehicle accident. Physical exam showed a temperature of 100.5°F and a heart rate of 114 BPM. Patient was well-appearing with normal heart and lung exams. He had mild frontal sinus tenderness.

Introduction

Individuals with impaired splenic function are at significant risk for severe infections leading to sepsis, with the risk being highest in the first 1-2 years postsplenectomy, but persisting lifelong.¹ Huebner and Milota opine that there is an opportunity for knowledge acquisition for primary care providers, who do not commonly see the devastating sequelae of missed diagnoses.²

Condition Overview

The spleen is the largest collection of lymphoid tissue in the body and plays an important role in immune function, both in terms of innate immunity (ie, the body's natural, nonspecific defense mechanisms) and acquired immunity (immunity resulting from exposure to an agent).

The immune function of the spleen is to help clear



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encapsulated bacteria from the body, primarily *Streptococcus pneumoniae*, *Neisseria meningitidis*, and *Haemophilus influenzae* type b.^{3,4} The spleen is also important for clearing intra-erythrocytic parasites like *Babesiosis* and *Plasmodium falciparum* (which causes malaria).⁴

Another important immune function of the spleen is to help produce IgM, which is important for the initial

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clearance of organisms from the body.^{3,5} Consequently, asplenic individuals have a decreased response to polysaccharide vaccines and need more frequent boosters than the general population.^{5,6} Asplenic individuals are more susceptible to severe infections, with a rate two-to-three times higher than the general population.⁷

Sepsis is defined as “life-threatening organ dysfunction caused by a dysregulated host response to infection.”⁸ *Postsplenectomy sepsis* is sepsis occurring any time after removal of the spleen.

The lifetime risk of postsplenectomy sepsis is about 5%. The risk for developing sepsis varies with patient population and depends on the individual’s age, indication for splenectomy, and whether they have any additional ongoing immunosuppression. There is a higher risk if the splenectomy was due to a hematological disorder as opposed to trauma.³ The greatest risk for developing postsplenectomy sepsis appears to be within the first 2 years after splenectomy, but this risk persists beyond that and likely lasts a lifetime.^{3,6} The mortality rate for postsplenectomy sepsis ranges from 38% to 70%, even with adequate treatment.^{3,5,6}

Keys To The Medical History And Physical Exam

Who Is at Risk?

Asplenia refers to complete loss of splenic function.

- Anatomical asplenia can be due to either a congenital condition or surgical removal, while functional asplenia occurs when diseases, such as sickle cell disease, cause the spleen to have decreased or absent function.
- Surgical asplenia following a trauma or for therapeutic purposes is the most common reason for asplenia.¹ There are approximately 25,000 splenectomies performed each year in the United States and the estimated number of asplenic individuals in the United States is around 1 million.⁶
- Congenital asplenia is rare.⁶

Hyposplenia is an acquired disorder associated with many different disease processes. The most common causes of hyposplenia are chronic graft vs host disease after stem cell transplant, celiac disease, and untreated HIV.⁵ It is estimated that 50% of these patient populations have some degree of hyposplenia.^{5,6}

Impaired splenic function in sickle cell disease begins manifesting at a very young age. Children under 3 years old are extremely susceptible to encapsulated bacteria, with risks 300–600 times higher than the general population’s. The incidence of hyposplenia in celiac disease ranges from 33% to 76%. According to Di Sabatino, et

al, the development of hyposplenia in this population appears to be related to gluten exposure prior to diagnosis. A gluten-free diet can sometimes restore splenic function—if there has not been irreversible loss of splenic tissue. Bone marrow transplantation is associated with hyposplenia 15%–40% of the time. The pathophysiology driving hyposplenia in these conditions is not well understood.⁵

While all patients with anatomic asplenia are at risk for severe infections, it is not as easy to determine the risk in patients with functional asplenia and hyposplenia because their splenic function is so variable.

The best way to determine splenic function has not been established. The gold standard for assessing splenic function is to count pitted erythrocytes; however, because of the specific equipment needed for this, it is rarely used in clinical practice. Most commonly, detection of Howell Jolly bodies on peripheral blood smear is used, but the sensitivity and specificity of this have been questioned, especially in milder forms of hyposplenia. Because of the difficulty in assessing splenic function, patients with functional asplenia and hyposplenia are typically treated like patients with anatomic asplenia when they present with signs and symptoms of a severe illness or fever.⁵

Clinical Features

Postsplenectomy sepsis often presents as a mild flu-like illness with fever, chills, sore throat, headache, muscle aches, vomiting, and/or diarrhea that can be hard to distinguish from other disease processes.³ Fever in an asplenic patient should be taken seriously, as it could be the first sign of an infection that could rapidly progress to sepsis. Asplenic patients presenting without a fever, but who appear toxic, should also be treated very aggressively.⁶ It is also important to remember that sepsis can present with a low body temperature, typically defined as less than 36°C.⁸

The most common foci of sepsis in asplenic individuals are the respiratory tract, abdominal cavity, and central nervous system; however, much of the time no focus is found.⁹ While a healthy individual with a functioning spleen may take days to decline, asplenic patients can deteriorate within hours.⁶ There is a high incidence of shock, hypoglycemia, acidosis, electrolyte abnormalities, respiratory distress, and disseminated intravascular coagulation in the asplenic patient population.³

Diagnostics and Initial Treatment

Individuals with impaired splenic function who present

Table 1. Vaccination Recommendations ^{1,6}			
Organism	Primary Vaccinations		Boosters
	Initial	8 weeks later	
<i>Pneumococcus</i>	PCV13 (conjugate)	PPSV23 (polysaccharide)	PPSV23 booster every 5 years
<i>Haemophilus influenzae</i> type b	Conjugate Hib		None
<i>Meningococcus</i>	Conjugate ACWY	2 nd dose of conjugate ACWY	Booster every 5 years
	Recombinant B+	2 nd dose of recombinant B+	None
Influenza	Influenza vaccine		Annually

with fever and/or severe illness should be transferred to the emergency department for further evaluation.²

Early administration of broad-spectrum antibiotics is the most important action to decrease mortality from postsplenectomy sepsis.^{3,4} Early goal-directed therapy including fluid resuscitation, vasopressor management, and airway management, in addition to early empiric antibiotics, has the potential to reduce mortality from postsplenectomy sepsis by 30% to 60%.³

Preventing Infection

Studies have demonstrated poor compliance among healthcare providers with the recommendations and guidelines for asplenic patients, especially in the outpatient setting.^{1,2} Asplenia and hyposplenia are often overlooked as causes of immunocompromise, which places patients at risk for developing severe infections and subsequent sepsis. There are three main categories of recommendations that focus on prevention of postsplenectomy sepsis: patient education, vaccination, and empiric antibiotics.

Patient Education

Patients who have impaired splenic function should be informed about their lifelong increased risk of infection and educated about the signs and symptoms of infection and sepsis, as this education has been shown to reduce incidence.^{1,4,10} A 2004 study by El-Alfy and El-Sayed demonstrated rates of postsplenectomy sepsis to be 1.4% among patients deemed to have good knowledge about their condition, versus 16.5% among patients who had poor knowledge.¹⁰

Patients should also be informed about the risk of animal bites and traveling overseas, as these increase the risk of severe infection in asplenic and hyposplenic patients. Dog bites in asplenic individuals can be associated with sepsis from *Capnocytophaga canimorsus*. Patients with impaired splenic function are also at increased risk of developing a severe malarial infection,

so malaria prophylaxis is very important if patients are traveling to endemic areas. Most sources recommend patients with impaired splenic function seek expert consultation prior to traveling.¹ Patients without a functioning spleen are also at risk for severe tick-borne illnesses, including *Babesiosis*, necessitating that patients be counseled on how to avoid tick bites.⁴

Vaccination

There are three vaccines that target infections asplenic patients are especially prone to: pneumococcal, Hib, and meningococcal (see **Table 1**). The timing of vaccination will depend on whether the splenectomy is elective or emergent. There is some evidence to suggest that administration of the vaccines in the 2 weeks prior to or the 2 weeks after splenectomy can impair the body's immune response.⁶ If the splenectomy is elective, patients should start the vaccine series at least 2 weeks prior to the procedure¹; if the splenectomy is emergent, the series will typically not be initiated until at least 2 weeks after the splenectomy.⁶

There are two vaccines recommended to protect against *Pneumococcus*: Prevnar 13 (conjugate vaccine) and Pneumovax 23 (polysaccharide vaccine). Current recommendations are to start with the conjugate vaccine (Prevnar 13) and give the polysaccharide vaccine (Pneumovax 23) 8 weeks later. This sequence improves antibody concentrations because asplenic individuals have a decreased immune response to polysaccharide vaccines.^{4,6} The polysaccharide vaccine should be re-administered every 5 years because antibody concentrations decline in asplenic individuals over this time period.¹¹ The Hib vaccine is recommended in patients who did not previously receive it as a child.⁶

There are two vaccines recommended for protection against *Meningococcus*: Conjugate ACWY and Recombinant B+. Both require two doses separated by 8 weeks. The conjugate vaccine should be re-administered every 5 years while the recombinant vaccine does not require

any boosters. It is also recommended for patients to get a yearly influenza vaccine, as influenza infection can predispose them to secondary bacterial infections with *Streptococcus pneumoniae* and *Staphylococcus aureus*.¹

“It is not uncommon for patients who do not have a primary care provider to seek care in the urgent care setting, so implementing these prevention strategies may fall solely on the urgent care provider.”

Empiric Antibiotics

All asplenic individuals should have a supply of antibiotics to take empirically if they develop signs of infection and cannot get to a medical facility in a timely manner, to prevent the development of clinical sepsis.⁶ Patients should be educated to go to a medical facility for evaluation if they develop fever, malaise, chills, or other constitutional symptoms. If they cannot get to a medical facility that can administer parenteral antibiotics within 2 hours, they should take a dose of the antibiotic they have on hand. All guidelines recommend empiric antibiotics in these cases, and patients should receive empiric antibiotics whether or not they are already receiving prophylactic antibiotics (discussed below). The chosen antibiotic should target encapsulated organisms, as these are the most common culprits in postsplenectomy sepsis. The most common regimens are amoxicillin or amoxicillin/clavulanic acid and, alternatively, levofloxacin or moxifloxacin if the patient has a penicillin allergy.^{1,6}

A more controversial topic is the concept of prophylactic antibiotics, which are taken on a daily basis to prevent infection. Some sources recommend lifelong antibiotic prophylaxis in everyone with impaired splenic function, but the general consensus seems to be that only certain populations require long-term prophylaxis, including the first 3 years postsplenectomy, children under 5 years old, and anyone who has survived an episode of postsplenectomy sepsis.^{1,2,6} The standard regimen for prophylactic antibiotics is penicillin because it is inexpensive, well-tolerated, and effective against encapsulated bacteria.⁴

Conclusion

Patients with impaired splenic function are commonly

encountered in the urgent care setting, and the immunosuppressive nature of this disease is often overlooked. The warning signs for impending sepsis may be subtle in this patient population, so it is important to be especially cognizant of abnormal vital signs like fever and tachycardia. It is also imperative to be aware of the conditions that predispose individuals to impaired splenic function, like sickle cell disease, celiac disease, HIV, and stem cell transplantation, because many patients with impaired splenic function are unaware of their condition. The management and disposition differ for individuals with impaired splenic function compared to otherwise healthy individuals.

The three most important aspects of preventing postsplenectomy sepsis are patient education, vaccination, and the use of empiric antibiotics. It is not uncommon for patients who do not have a primary care provider to seek care in the urgent care setting, so implementing these prevention strategies may fall solely on the urgent care provider.

Case Resolution

The case presented at the beginning of this article concerns a patient who is clearly at risk for developing postsplenectomy sepsis. Red flags are that he had already completed two rounds of oral antibiotics without improvement and the fact that he is febrile and tachycardic. This patient was transported to the emergency department, then admitted to the progressive care unit for 5 days. He received IV antibiotics and his symptoms gradually started to improve, but no focus of infection was found. He was discharged home on PO antibiotics. ■

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Smoothing Ebb-and-Flow for Greater Staff Efficiency and Shorter Wait Times in Urgent Care

Urgent message: Integration of healthcare delivery with mobile technology is leading more urgent care operators to embrace digital queuing systems that, given their ability to positively impact patient wait times, offer the promise of elevating the patient experience—and a distinct competitive advantage.

ALAN A. AYERS, MBA, MAcc

In a perfect world, every patient who showed up at your urgent care center would be quickly checked in and then immediately seen by a provider. But the *urgent* in urgent care doesn't necessarily mean *instantaneous*, so depending on the number of patients already at the center, there is usually a wait of some duration. And while most urgent care patients have grown accustomed to a reasonable wait, expectations continue to shift as more and more service providers and businesses push the envelope in leveraging technology to provide faster and frictionless service delivery. This is where the concept of queue management becomes important to urgent care. What's more, its strategic application can greatly benefit the urgent care center's patients and staff and contribute to overall operational excellence.

Queues

A *queue* is simply a line of people waiting to receive products and services. Queues form when the number of customers waiting to be serviced exceeds a businesses' ability to immediately service them. People waiting their turn in some sort of line is as old as civilization itself, but over time, experts have developed theories, concepts, and approaches to better understand and improve the best ways to manage queues—hence, the concept of queue management. The businesses that therefore excel at understanding how their customer queues form; how to manage the speed, pace, and flow of those queues;



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and how to positively influence the customer's perception of time spent waiting in those queues reap the benefits of increased customer satisfaction and loyalty.

With that in mind, the traditional urgent care queue has the following components:

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- Enter the center
- Registration at the front desk
- Wait in the lobby
- Triage (vitals, history)
- Provider visit
- Discharge

As total wait (or door-to-door) time is the biggest determinant of patient satisfaction, the faster patients can get in and out (with a positive clinical outcome of course) the happier they will be with the service. Once a patient has experienced a speedy door-to-door encounter during one visit, though, the expectation has been set for future visits to be of equal or shorter length. This visit length cannot be guaranteed by the urgent care, however, given urgent care's unpredictable ebb-and-flow of patient traffic.

When the center opens first thing in the morning, for example, there may be three or four patients waiting to be seen, followed by a midmorning lull where there are no patients for an hour. This variance and unpredictability lead to bottlenecks and prolonged waits on the front end, and productivity-sapping lulls on the back end. This ebb-and-flow continues throughout the day and is influenced by a multitude of factors, including seasonal demand.

Bottlenecks are indeed an issue in urgent care. Despite popular opinion, bottlenecks aren't caused by slow speed; they're caused by variances in speed. Consider a traffic analogy: Imagine driving down a freeway at 65 miles per hour. Traffic suddenly slows, then stops, then resumes. In this case, that slow-down and braking wasn't caused by an accident up ahead. It was triggered in fact by the cumulative effect of all the drivers' in the chain braking. So, if the cars in front start to slow down, the traffic behind will back up. That's because the change in speed (ie, change in velocity) created a slow-down. Cars going 65 mph that come upon cars going 35 mph have no choice but to slow down.

Another example is the "bottle" analogy based on an episode of the television show *Undercover Boss*, featuring a CEO working in a factory putting soda bottles into boxes. The CEO fell behind in the task due to the uneven flow of bottles such that some of the bottles eventually crashed to the floor. Had the bottles come to the CEO in a steady, even flow, he would have had little difficulty maintaining his pace in grabbing them individually for the box.

Both scenarios mirror the urgent care ebb-and-flow of patient traffic highlight the dilemma that often results because of it.

Queue Management

One popular solution being implemented by an increasing number of urgent care providers is employing a digital queue management system (QMS). *Queue management* is defined as a set of principles aimed at controlling customer flow and streamlining the queuing experience.

Rather than deal with the challenges of uneven patient ebb-and-flow along with the unpredictability of walk-in patients, these systems create, manage, and maintain an organized digital queue that evenly paces the flow of patients through the center. The components of the urgent care queue influenced most positively by a queue management system are the registration process and wait-to-be-seen interim, as those are the ones that have the most time variability. A fully optimized queue management system does more than just lend predictability to average patient wait times—it positively impacts the patient experience and the urgent care staff efficiency/productivity by addressing several key factors, including:

- Functional shifting
- Frictionless transactions
- Wait time perceptions
- Unexplained waits

In effect, queue management is largely customer service. To that end, the following sections will briefly examine each factor, and the ways a digital queueing system facilitates the improvement of each.

Functional Shifting

Functional shifting in the service context entails shifting routine data entry tasks, such as registration, away from the front desk staff to the lowest cost (in terms of labor) resource—the patient, who essentially works for free. Only, patients don't perceive themselves as working for free; in fact, patients feel empowered and like it when they have control over that portion of their transaction. Patients also tend to be more accurate when entering their own information as opposed to hurried front desk staff who may not notice their own data entry errors. Of course, errors in registration lead to delays in payment when insurance claims cannot be processed correctly on the first pass. This is such a critical issue that *first pass resolution rates* remains a prominent key performance indicator in many urgent care operations.

Functional shifting has an additional positive benefit: When the staff is freed up from the administrative burden of data entry, they can focus more of their time and energy on patient service. And as labor is the largest single expense in urgent care, functional shifting allows the urgent care to reduce staffing levels, resulting in cost savings.

How queue management systems help

An optimized queue management system would provide functionality for the patient to enter their registration information either at the urgent care center (kiosk) or through the center's website accessible online or through a smartphone. When made easily accessible to consumers via smart phone technology accessed through a website or app, and combined with the ability to register online, this patient-facing technology offloads administrative burdens to the patient and lets the front desk staff focus on solving patient issues—which improves the overall quality of the patient experience.

Reducing Friction

Friction is the now-ubiquitous business and tech buzzword that refers to obstacles, steps, or extra effort standing between a consumer and their utilization of a product or service. Businesses are increasingly leveraging web and mobile technology in innovative ways to make it practically effortless for a customer to take control of a transaction and have their product or service delivered with speed, efficiency, and on their terms. Restaurant bookings, meal delivery service, hotel accommodations, and in-store purchases that don't require a trip to the register or interaction with a sales clerk all happen quickly and seamlessly through smartphone apps that link to digital platforms designed to eliminate friction. As a result, consumers have grown accustomed to managing their own transactions with vendors. As almost every major retailer and service provider now has a transactional app and/or website, this type of digital interaction is becoming an expectation among consumers. And even though the average urgent care patient only visits a center 1.7 times a year, the onus is on urgent care to make planning and carrying out an urgent care visit as frictionless as possible when the need arises—or lose out to a competitor that does.

How queue management systems help

Numerous studies show that the vast majority of urgent care patients look online first when searching for a solution to their health problem. Provided the urgent care's website is SEO optimized to rank highly in search results, a patient will likely find their way to the urgent care's website. If a queue management system is integrated with the urgent care website, the system will provide location information that communicates with the smartphone's built-in GPS, directing the patient to the nearest facility. The QMS further integrates with the website to provide information such as:

- Estimated wait times
- Next available appointment
- The ability to reserve a spot online
- Complete registration online
- The ability to book an Uber or Lyft for transport to the urgent care center

In theory, with a robust QMS operating, a consumer could type in a search keyword such as “urgent care near me” into their phone, and within minutes have a spot reserved in line, a time to arrive at the center, and an Uber on the way to transport them there—with little or no friction experienced during the process.

Wait Time Perception

Queue management systems feature a built-in algorithm that adjusts wait times according to patient throughput and demand. This evenly paces patients through the urgent care center, resulting in shorter average wait times. Beyond simply shortening the *average* wait time, though, QMS functionality provides tools and technology that help influence the perception of the *total* waiting time, regardless of where it takes place.

Wait time perception among consumers is a fascinating subject. Researchers have found that people's reaction to waiting is influenced less by the actual time elapsed and more by the circumstances surrounding the wait. For example, studies have shown that people have greater tolerance for a longer wait that is clearly explained than a much shorter wait that is uncertain and unexplained. The issue seems to be not the length of the delay, but in the way the delay is experienced. For urgent care patients sitting in a waiting room or lobby with no sense of how long they've been waiting, how long the surrounding patients have been waiting, or how much longer their remaining wait will be, waiting becomes a frustrating process that significantly detracts from how they perceive the entire experience.

How queue management systems help

A queue management system can reduce or even eliminate what's called *unoccupied time* (time patients spend doing nothing in a lobby while waiting to be seen by a physician). When patients can wait for their spot in line on the couch in their own home, while running errands, or while grabbing a cup of coffee, they don't count that time toward their perceived wait. That is considered “occupied time” that the patient reclaimed and had control over.

The QMS can also communicate delays with patients through SMS messaging, while allowing walk-in patients

to leave the urgent care center if they choose to and receive a text when their spot in line is approaching. Having more control over the way the wait is experienced has also shown to be an important factor in patient satisfaction. So, although patients are still technically in the queue, their time spent waiting at home or work is not perceived as an actual wait in terms of waiting to see a physician. During a busy flu season, for instance, even if the urgent care center is running a 2-hour wait, patients who are seen upon arrival because they were evenly paced and waiting elsewhere in the queue will report having “zero” or “minimal” wait. For these patients, the experience would feel like they were taken to the back to be seen immediately upon arrival. From their perspective, that is excellent and efficient patient care.

Unexplained Waits

Not every urgent care patient will register online first through the queueing system or opt to leave the center to wait elsewhere as a walk-in patient. For those patients, in-center waits that are unexplained, or have the appearance of randomness or unfairness (ie, a patient who waited offsite for their spot in line returns to the center and appears to “cut the line” in front of a patient waiting) are particularly upsetting. Additionally, waiting patients tend to overestimate the time they’ve spent waiting, so in the absence of accurate updates at regular intervals, the anxiety they experience during the wait increases significantly.

How queue management systems help

The queue management system features functionality that appries patients of the specifics of their wait in real time. The QMS would feature a TV screen in the lobby that displays estimated wait times, patient waiting order—in a manner that is HIPPA-compliant—and walk-in vs online patient status. Ideally, there would also be some sort of tracking board of patient status in the nurse area. There should also be a staff member explaining to patients waiting in the lobby that other patients have chosen to wait offsite and may return to be seen before them as they are actually ahead of them in the queue. This kind of explanation will go a long way to eliminating patient perceptions of randomness and unfairness, reducing the overall stress of their wait. It would also eliminate the all-too frequent patient inquiries of *How much longer?* to the front desk staff.

Anecdotal reports indicate that when medical clinics having difficulty in managing patient wait times implemented a QMS, the reduction in patients who cancelled and/or opted not to wait under the former method

amounted to vastly improved retention rates (and netted the clinics thousands of dollars in additional revenue). Patient satisfaction surveys also showed dramatically higher scores in clinics that implemented QMS.

“With mobile technology allowing businesses to reduce long waits for their services, consumers are expecting the same from their healthcare providers.”

Queueing System Best Practices

Urgent care operators in search of a digital QMS will find several competing options in the marketplace. Aside from features and functionality, the ideal queueing system should be “white labelled” which allows the urgent care center to brand the product as its own. Urgent care operators should beware of queueing systems that are essentially aggregators designed to create a marketplace for healthcare providers and that include the wait times of other centers and attempt to steer your patients to competing telemedicine providers. These websites commoditize urgent care, place your center alongside competing centers for comparison shopping, and diminish your brand loyalty. And when these marketplaces include transactional functionality—ie, the ability to put down a credit card for payment—it financially locks in unsuspecting urgent care clients. Be sure to do your due diligence when evaluating any QMS to ensure you are getting a system that provides the exact service you intended for your center.

Conclusion

Healthcare researchers have compiled conclusive data showing a definite link between perceived wait times and patient satisfaction. And in a society where mobile technology allows businesses to drastically reduce queues and long waits for their products and services, consumers are expecting similar innovations from their healthcare providers.

Queue management systems that help evenly pace patient flow can not only increase patient satisfaction by reducing average wait times and perceived waits, but also free up urgent care front desk staff from burdensome administrative tasks. The reclaimed time can be focused on delivering improved patient care, save the urgent care money in labor costs, and allow the staff to be more efficient and productive—providing a sure path to an elevated patient experience and clinical operational excellence. ■



What Urgent Care Operators Need to Know About OSHA

Urgent message: Though the topic of OSHA doesn't often come up in the context of urgent care facilities themselves, operators are nevertheless required to have a thorough understanding of its standards and guidelines towards ensuring their facilities are in compliance, and that the health and safety of employees, patients, and vendors are protected.

■ ALAN A. AYERS, MBA, MAcc

In the course of normal everyday operations, the following can (and does) occur in otherwise well-run urgent care centers:

- The storage of staff-concocted “toilet-bluing” solutions for drug screens in old, unlabeled bleach bottles
- The preservation of expensive vaccine inventory in the employee breakroom refrigerator while awaiting the repair of the broken vaccine refrigerator
- The temporary placing of broken lab equipment or worn office furniture to be shipped out or disposed of near the emergency exit route—if even for a few moments

What do these activities have in common? On the surface, they're time and effort, cost-saving workarounds—but they're also potential Occupational Safety and Health Administration (OSHA) violations. Even so, it probably isn't the case that the urgent care staff had any intention of flagrantly disregarding the health and safety of their coworkers and patients. For many in urgent care, in fact, OSHA regulations tend to be somewhat vague given that a small medical facility with 8-12 employees holds few risks for harm or injury.

Compare that to, say, a warehouse whose operations require many hazardous chemicals, large and complex machinery, labor

from heights that pose a falling risk, the hoisting of objects that can fall on employees, and complicated fire escape routes. In those types of workplaces, employers' and employees' understanding and familiarity with OSHA regulations would be more thorough and in-depth out of pure necessity, as potential dangers lurk literally everywhere and violations can result in citations, fines, serious injury, or even death.

Given that most urgent care centers are basically “doctor's offices” and relatively safe, however, most staff are aware of just bits and pieces of the regulations, and not the full picture of OSHA as it pertains to a medical facility. Regardless, urgent care centers still contain a number of potential hazards where lax compliance can pose a similar risk of injury, citations, and fines. With that in mind, this article will take a closer look at the OSHA standards and guidelines that are relevant to a medical office environment such as urgent care, along with prescribed courses of action for promoting and strengthening OSHA compliance at your urgent care center.

What is OSHA?

The Occupational Safety and Health Administration (OSHA) was created by the United States Department of Labor in 1970 to promote and ensure safe and healthful workplaces by developing standards and guidelines for reducing workplace hazards. OSHA provides training, education, outreach, and consultation, along with enforcement of its standards and guidelines. OSHA's stated mission is “to save lives, prevent injuries, and protect the health of America's workers.” OSHA rules apply to every workplace in the United States with one or more employees.



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Twenty-eight states have their own OSHA programs, including California, whose OSHA regulations are stricter than those prescribed by the federal program.

The primary enforcement provision is the OSHA General Duty Clause, listed in Section 5(a)(1) of the Occupational Safety and Health Act, which requires that every employer furnish to each of its employees a workplace that is free from recognized hazards that are causing, or likely to cause, death or serious physical harm. The general duty clause also acts as a blanket provision for workplace circumstances that pose a potential risk or hazard where there is no specific standard in place. If an employee is therefore harmed and/or injured due to noncompliance with OSHA regulations, the employer is liable.

In short, the responsibility falls squarely on the employer to identify all risks, create policies for working safely, and train employees on those policies. Under OSHA standards and guidelines, an employer escapes responsibility for harm or injury only if the employer:

- Did not create the hazard
- Does not bear responsibility or have the ability to have the hazard corrected or removed
- Notified employees of the hazard and how to avoid the dangers associated with it
- Took appropriate alternative means to avoid the hazard and/or removed employees from the job setting to avoid the hazard

More often than not, though, the general duty clause will indicate that the employer and not the employee is at fault for a given violation. Naturally, employers are motivated to comply with OSHA standards considering the threat of inspections, citations, hefty financial penalties, and even OSHA-created press releases designed to “name and shame” some offenders.

OSHA as It Pertains to Urgent Care

OSHA has a multitude of standards and guidelines to cover specific industries. For example, OSHA standards that are pertinent to an industrial setting might include (but are not limited to) Hearing Conservation, Respiratory Protection, and Crane/Hoisting Inspection. Medical office OSHA standards focus on protecting employees from being exposed to communicable diseases, hazardous chemicals, ionizing radiation, and general hazards such as obstructed emergency exit routes and electrical hazards. To that end, OSHA guidelines relevant to urgent care include:

- Bloodborne Pathogens
- Ionizing Radiation
- Hazard Communication
- Emergency Exit Routes
- Electrical Hazards
- Fire Prevention
- Personal Protective Equipment

- Signage
- Record Keeping
- OSHA Inspections
- Reporting to OSHA

Bloodborne Pathogens

According to OSHA: The bloodborne pathogen standard is designed to protect employees where there is a risk of exposure to blood or other potential infectious materials (OPIM). It’s also OSHA’s most frequently requested medical guideline for the prevention of the spread of communicable diseases.

Relevance to Urgent Care: The most important standard to the urgent care setting. Exposure to bloodborne pathogens—usually from needlestick or sharps injury—is the greatest safety risk in urgent care. In fact, of the most frequently cited OSHA violations in medical offices year after year, the majority are related to the bloodborne pathogen standard.

How Violations Occur: The following are among the most common OSHA citations in medical offices pertaining to the bloodborne pathogen policy (BBP):

- Failure to implement and maintain a BBP standard
- Poor housekeeping under the BBP standard
- Failure to train under the BBP standard
- Failure to engineer out hazards/ensure hand washing under the BBP standard
- Failure to make the hepatitis B vaccination available under the BBP standard
- Failure to keep BBP training records and a sharps injury log
- Failure to use personal protective equipment under the BBP standard

Exposure can result from needlesticks, cuts from contaminated sharps such as scalpels and lancets, or glass from broken vials. Exposure can also occur from OPIM such as bodily fluids infected with HIV or Hepatitis A/B/C that comes in contact with the eyes, nose, or mouth.

Steps Toward Compliance: Employers with even one employee who has occupational exposure to blood or bodily fluids must have an effective written Bloodborne Pathogen Exposure Control Plan in place designed to prevent or minimize occupational exposure to blood and other potentially hazardous materials.

OSHA has created a model template, Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards, for employers to use in creating their own Exposure Control Plan that meets or exceeds OSHA’s requirement for the Bloodborne Pathogens Standard. The employer-created Exposure Control Plan must meet certain criteria:

- It must be written specifically and tailored for each facility.
- It must be reviewed and updated annually to reflect any relevant changes such as new employees at risk for exposure being trained on the standards.
- It must include workplace changes, modified job duties, or new technology introduced to reduce exposure to blood or body fluids.
- It must be readily available and accessible for all employees to view.

Urgent care operators must regularly educate their workers on the uses of the Exposure Control Plan and where it's kept, so that it's accessible when needed.

(Please note that information on accessing resources described in this article appears on page 27.)

An effective Exposure Control Plan would include the following:

- An evaluation/determination of employee exposure. The employer must identify jobs and tasks where exposure to blood and other potentially infectious material can occur
- Implementation of universal precautions such as those that ensure personal protective equipment is in place and is always being used
- Evaluation of safer medical devices and safer work practices. For example, consideration of using non-needle sharps or needle devices with safety features (ie, a sliding sheath that shields the attached needle after use, needles that retract into a syringe after use, and IV delivery systems with a catheter port and needle housed in protective covering)
- An offering of hepatitis B vaccination to all employees at risk of exposure at no cost, with a requirement of informed consent if the vaccination is declined
- Creation of a program for postexposure evaluation and follow-up
- Communication of bloodborne or bodily fluid hazards to employees, including the use of signs and labels
- A procedure for the management of medical waste
- The maintaining of a sharps injury log for practices with 10 or more employees. The log must protect employee confidentiality
- Provided training to employees on bloodborne pathogen hazards and precautions

Elements of the Bloodborne Pathogens training would include:

- Provided copy of OSHA's Bloodborne Pathogens standard
- Assessment of various modes of transmission (assessment of BBP exposure risks in the urgent care)
- Exposure Control Plan full review
- Training on how to recognize and respond to bloodborne

and OPIM workplace hazards

- Training on risk reduction—such as engineering/work practice controls and the use of personal protective equipment
- Training conducted annually, with records of each training retained for 3 years. The employer must pay for the training

“OSHA guidelines require medical offices to provide employees with information regarding any hazards that are present. The hazard communication standard is also known as the employee right-to-know standard, as employees must always have access to hazard information.”

Takeaway: Along with practicing universal precaution, the assumption must always be “treat everything as if it's infected.” Chemicals are not the major exposure risk in a doctor's office—it's exposure to biohazards. There should be no food, drink, or make-up application in areas with potentially infectious agents. A vigilant approach to the bloodborne pathogen exposure control policy will reduce the greatest safety risk in urgent care.

Ionizing Radiation

According to OSHA: Ionizing radiation contains enough energy to ionize atoms that can destabilize molecules within cells, which results in tissue damage. As radiation sources are used in many occupational settings, excess and uncontrolled radiation levels pose a significant hazard to the health of workers.

Relevance to Urgent Care: Many urgent care centers have on-site x-ray machines therefore staff are at risk for excess exposure to ionizing radiation.

Steps Toward Compliance: The OSHA guidelines for ionizing radiation apply to facilities that have an x-ray machine. It includes three basic requirements:

- A survey of the specific types of radiation in use
- All x-ray machinery and all doors to rooms with x-ray equipment must be labeled with signs
- All areas containing radiation or x-ray equipment should have restricted access and should limit radiation exposure to employees. Personal radiation monitors should be provided to all employees who operate the equipment and to all employees whose work involves exposure to radiation

Takeaway: X-ray machinery and equipment have their own additional set of safety standards and guidelines, covered out-

side of OSHA, for safe operation of radiology equipment. Ensure that your urgent care staff is knowledgeable about those standards and in compliance to protect employee health.

Hazard Communication

According to OSHA: OSHA guidelines require medical offices to provide employees with information regarding any hazards that are present. The hazard communication standard is also known as the “employee right-to-know” standard, as employees must always have access to hazard information.

Relevance to Urgent Care: The primary hazards that exist in urgent care include:

- Bloodborne pathogen exposure and OPIM, including medical wastes
- Hazardous chemicals used or stored in the medical office
- Ionizing radiation
- Electrical hazards
- Obstructed emergency exit routes

How Violations Occur: The area with the second most frequent violations of OSHA standards in medical offices, after the bloodborne pathogen standard, is the hazard communications standard. The most typical of these citations is a failure to train employees on the hazard communication standard.

Steps Toward Compliance: All medical offices are required to have a written plan for hazard communications, as well as documentation of compliance training for hazard communication to employees. When hazards are identified, the onus falls on the urgent care operator to evaluate the hazard to determine if its covered under an existing plan, or otherwise write a new policy and train all employees on it.

For hazardous materials and substances, OSHA requires a Safety Data Sheet (SDS) listing the hazards and precautions required for handling and storage. Because the makeup of every batch of chemicals differs, manufacturers provide a new SDS for every batch, which employers must keep on file for 30 years when dealing with chemicals that may pose health issues with long-term exposure. The general rule of thumb for chemicals is “If they sell it at Walmart, then an SDS is not required.” The cleaning products and other substances kept in an urgent care center are typically in small quantities and the packaging itself comes with manufacturer labelling with pictograms. Therefore, it’s important to never put cleaning agents and other chemicals in anything other than its original container.

Management of Medical Waste

According to OSHA: All medical waste must be:

- Contained in a special red bag or sealed plastic bin that indicates it’s a biohazard
- Stored in a segregated area (or closet) with the door

clearly labelled with the “Biohazard” sign

- Removed by an authorized contractor

Takeaway: While hazard communication in urgent care is not as big an issue as bloodborne pathogen exposure, a lax approach holds significant risk to employee health and safety and should be treated as such.

Electrical Hazards

According to OSHA: OSHA has comprehensive standards regarding electrical hazards, covering a multitude of workplace settings and environments.

Relevance to Urgent Care: A medical office is full of electrical equipment; therefore, it’s important that all equipment is used safely and properly and undergoes regular maintenance and inspection to protect employees from injury.

How Violations Occur: Frayed electrical cords can result in shocks or electrocutions. Fraying can result from rubbing against door or window edges, by staples and fastenings, being rolled over by wheels, or simple wear and tear—which can result in insulation breaks, short-circuits and exposed wires. Damaged connectors and receptacles and unsafe work practices involving electrical can result in injury. Injuries from tripping over exposed cords can also occur.

Steps Toward Compliance: It is important to perform regular inspections and maintenance of all electrical equipment. Electrical standards to protect employees from injury include:

- Staff training in the proper usage of all equipment. Equipment should only be used by an employee for the purpose of performing their job
- Equipment must be tagged with the inspection date, the due date of the next inspection, and the inspector’s initials
- In the event of failure or malfunction, immediately mark the equipment as, “OUT OF SERVICE”
- Only authorized personnel should attempt to service or repair malfunctioning medical equipment

Takeaway: While not a major urgent care hazard, electrical hazards can lead to fires and even fatalities. Electrical hazards should therefore always be treated with the utmost seriousness and addressed immediately by authorized personnel.

Emergency Exit Routes

According to OSHA: An exit route is a continuous and unobstructed path of exit travel from any point within a workplace to a place of safety. Exit routes have three parts:

- **Exit access** – part of the exit route that leads to an exit

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- **Exit** – part of the exit route that is separated from other areas to provide a protected travel path to the exit discharge
- **Exit discharge** – part of the exit route that leads directly outside or to the street or area of refuge

Relevance to Urgent Care: All medical offices are required to provide safe and accessible exits from the building in the event of an emergency. All exits are to be marked. Diagrams that show evacuation routes must be posted in highly visible areas.

How Violations Occur: More common examples of violations include objects obstructing or blocking any part of the emergency exit route for any length of time, or not displaying proper signage or highly visible exit route diagrams.

Steps Toward Compliance: OSHA has a fact sheet that provides the answers to common questions including:

- What is an exit route?
- How many exit routes should a workplace have?
- Are there specific construction and design requirements for exit routes?
- What additional requirements are there for exits?

For urgent care centers with 10 or fewer employees, you're allowed to communicate your exit route plan orally. For 10 or more employees, however, the exit route plan must be written, available onsite, and accessible to all employees.

Takeaway: Even though employers are not required to have an emergency action plan (EAP) in conjunction with the exit route plans unless a particular OSHA standard requires it, OSHA still recommends strongly that all employers institute an EAP and train all employees on it.

Fire Prevention

According to OSHA: Fire prevention plans (FPP) go hand-in-hand with emergency exit route plans and emergency action plans (EAP).

Relevance to Urgent Care: Most municipalities will require fire prevention plans be created in any medical facility or place of business. The fire prevention plan must:

- Assure a sufficient number of fire extinguishers are available, placed near areas of fire risk, and inspected regularly as required by law
- Identify fire hazards related to storage
- Have a training plan for fire evacuation including procedures for calling 911
- Outline each employee's duty in evacuation including equipment that needs to be shut down

How Violations Occur: Examples of violations of fire prevention standards include storage of cleaning supplies and paper goods like toilet paper and paper towels in the HVAC room where the furnace or water heater may have a pilot light; nonfunctional fire extinguishers; and unsafe accumulation of flammable and combustible materials.

Steps Toward Compliance: These are the minimum OSHA-recommended provisions for an FPP:

- Up-to-date list of all major fire hazards, instructions for the safe handling and storage of hazardous materials, potential ignition sources and their control, and the specific fire protection equipment required for each hazard
- Action plans and procedures for controlling accumulations of combustible and flammable waste materials
- Regular maintenance schedule of safeguards installed on heat-producing equipment for prevention of accidental combustion of materials
- Name or job title of employees responsible for maintaining equipment to prevent or control accidental combustion or ignition of materials

“PPE items include eye and foot protection, gloves, masks, earplugs, hard hats, and respirators. Additional protective equipment could include:

- *Face/eye shields (for working in the laboratory or for administering CPR)*
- *Face masks or other barrier devices*
- *For physicians and medical assistants, rubber gloves, gowns, face shields, eye protection, mouthpieces*
- *CPR masks and resuscitation devices*

Takeaway: Similar to the aforementioned emergency exit plan, urgent care centers with 10 or fewer employees may communicate the fire prevention plan orally to their employees. Urgent care centers with at least 10 employees must provide a written plan that is kept onsite and accessible to employees for review. Although employers are only required to have an FPP when the applicable OSHA standard requires it, OSHA strongly recommends that all employers have an FPP. In addition, when you assign employees to a job, you must inform them of any fire hazards they may be exposed to. You must also review with each employee those parts of the fire prevention plan necessary for self-protection.

OSHA Compliance Checklist for Urgent Care

Following is a list of items that an urgent care center should be aware of, to assure employee safety and compliance with OSHA standards related to patient care.

- Every urgent care center should have a written Exposure Control Plan, available to all employees, reviewed and updated on an annual basis.
- The Exposure Control plan should include the following elements:
 - Universal precautions (treatment of all bodily fluids as an infection risk)
 - Engineering and work practice controls
 - Hygiene protocols (ie, guidelines for washing hands/skin, eyewash station to flush eyes upon any exposure)
 - Sharps injury prevention devices (ie, “safer” needles that retract or destruct)
 - Antimicrobial soap/cleaning supplies (for disinfection of surfaces and supplies)
 - Personal protective equipment
 - Employee dress code including scrubs for back office staff, white lab coats for providers, a requirement of closed-toe shoes, and a prohibition on “street clothes” (including Halloween costumes) when in contact with patients or patient specimens
 - Employees should be offered, and if appropriate the employer should pay for, personal protective equipment like eye shields, rubber gloves, and resuscitation guards
 - Postexposure medical actions and follow-up

- Every urgent care center should have a written Bloodborne Pathogens Training Plan, with orientation and training for all new employees, and annual refresher training conducted and documented.
- Every staff member should be offered a hepatitis B vaccine at no charge, paid for by the employer. Employees who refuse need to sign a Vaccine Declination Form which should specify that they may receive the vaccine if they change their mind in the future).
- Biohazardous waste must be identified by a sign or label indicating the hazard, including sharps disposal containers, segregation of soiled laundry and waste into a specially labeled closet or storage area, and picked up by a certified disposal vendor.
- Every urgent care center should maintain a log of sharps and needlestick injuries, which is analyzed for root cause and continual improvement opportunities.
- Every urgent care center should identify any toxic substances requiring an SDS (generally not required since the quantity of any chemicals is small and in a vendor-labelled container), and assure all cleaning supplies and other substances are in their original labelled containers.
- Every urgent care center must display the OSHA Form 300A summarizing workplace injuries between February 1 and April 30 of each year. Additionally, centers must display OSHA Form 3165 (“It’s the Law” poster) or state equivalent in the breakroom or other prominent area.

Personal Protective Equipment

According to OSHA: Personal protective equipment (PPE) is any equipment worn to minimize exposure to workplace hazards. PPE items include eye and foot protection, gloves, masks, earplugs, hard hats, and respirators.

Relevance to Urgent Care: In a medical office environment like urgent care, it’s important to have a thorough accounting of all workplace hazards, as well as the PPE necessary to protect employees from those potential hazards. Scrubs and white lab coats are considered PPE given that they’re “protective” garments made of special fibers that are nonabsorbent against blood and other bodily fluids. Additional protective equipment could include:

- Face/eye shields (for working in the laboratory or for administering CPR)
- Face masks or other barrier devices
- For physicians and medical assistants, rubber gloves,

- gowns, face shields, eye protection, mouthpieces
- CPR masks and resuscitation devices

Note: *Emergency equipment such as the first aid kit and eye wash should also be in place and functional in case an injury occurs.*

Employers must pay for all protective equipment except nonspecialty protective footwear (ie, employees must bring their own shoes). Scrubs could be considered “everyday” clothing vs garments used exclusively for safety; hence, urgent care isn’t required to pay for scrubs. Many urgent care centers, however, will provide a set of scrubs at the beginning of employment and annually, or otherwise offer a credit towards purchasing scrubs.

How Violations Occur: Wearing “street” clothing or garments that do not offer protection from workplace hazards would be considered a violation of the PPE standard, as would not having a sufficient supply of specific PPE prescribed for

employees and/or the necessary job functions, and not wearing PPE when job function regulations require it.

Steps Toward Compliance: Per OSHA, responsibility falls on the employer to ensure that the following PPE procedures occur:

- Identify and provide appropriate PPE for employees
- Employee training in the use and care of PPE
- Procedure for maintaining and replacing worn or damaged PPE
- Periodic review of the effectiveness of the current PPE standard, with updates as necessary
- Process for informing management or a supervisor when PPE needs to be repaired or replaced

Takeaway: In a medical office like urgent care, the risk of wearing street clothes (including Halloween costumes) is that intermingling and washing them in cold water with the family laundry can lead to the spread of *Staph*, *Strep*, and other bacteria to family members. Additionally, alongside PPE policies and standards, urgent care centers should also enforce a dress code. The dress code would cover garments that are appropriate to the workplace and/or required (such as leather, closed shoes) and address hair, nails, beards, jewelry, and other “grooming” standards.

Safety Signage

According to OSHA: OSHA regulates most workplaces and specifications for safety signs, accident prevention signs, and safety tags. Employers are required to warn employees (including temporary employees), vendors, contractors, and visitors about any workplace hazards they might be exposed to. This is best accomplished by using and following established safety sign and marking standards.

OSHA has three classifications of signs:

- **Danger signs** – These signs indicate immediate danger and that special precautions are necessary. OSHA specifies that red, black, and white colors are to be used for danger signs
- **Caution signs** – These signs warn against potential hazards or caution against unsafe practices. OSHA specifies that caution signs must have a yellow background and black panel with yellow letters. All letters used against the yellow background must be black
- **Safety instruction signs** – Safety instruction signs are required where there is a need for general instructions and suggestions relative to safety measures. OSHA specifies that safety instruction signs must have a white background, green panel, and white letters. Any letters used on the white background must be black

Resources Regarding OSHA Compliance for Urgent Care Centers

- Occupational Safety and Health Administration. Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards. Available at: <https://www.osha.gov/Publications/osh3186.pdf>.
- CEU360. 5 OSHA Guidelines for Medical Offices. Available at: <https://www.ceu360.com/2016/01/25/5-osh-guidelines-medical-offices/#radiation>.
- Occupational Safety and Health Administration. OSHA Fact Sheet. Emergency Exit Routs. Available at: https://www.osha.gov/OshDoc/data_General_Facts/emergency-exit-routes-factsheet.pdf.

Relevance to Urgent Care: A medical office such as an urgent care center is home to any number of potential safety hazards of which people on the premises must be warned and that must be labelled with appropriate signage.

How Violations Occur: Not having proper signage in place in designated areas. Objects blocking or obstructing the visibility of signs.

Steps Toward Compliance: The following signs should be clearly displayed in appropriate areas in an urgent care center:

- Security Camera in Use
- No Firearms Allowed (specific verbiage may be required in states with concealed carry laws)
- For refrigerators used for vaccines and/or lab sample storage: No Food or Drink Allowed!
- For refrigerators used for employee food – Food Only (no medication or lab samples allowed)
- Authorized Personnel Only sign limiting access to the electrical/cleaning/telephony closets
- Oxygen in Use (or Oxygen Being Stored) signs, as oxygen is highly flammable
- X-ray in Use sign
- Signs warning of biohazards (ie, biohazard disposal closet, laboratory, sharps containers)
- In the lab and medical station: No Food or Drink Allowed

Takeaway: Other signage, such as labelling of exits and/or emergency evacuation routes, will be regulated by the local fire inspector and not covered by OSHA signage requirements. Fire extinguishers, first aid kit, and eye wash should also be clearly labelled with appropriate signage. ■



ABSTRACTS IN URGENT CARE

- Topical TXA vs Merocel in Anterior Epistaxis
- Cool Running Water Reduces Need for Skin Graft in Pediatric Burns
- Efficacy Oral Ibuprofen at Various Doses for Short-Term Pain Relief
- Do Patients Know What Fracture Means?
- Tramadol's Numerous Adverse Drug Reactions
- Recurrent Febrile Seizures Increase Morbidity And Mortality

■ YIJUNG RUSSELL, MD

Topical TXA Is as Effective as Merocel in Stopping Anterior Epistaxis

Key point: Atomized TXA with nasal compression is as effective as Merocel in stopping anterior epistaxis with decreased rebleeding rates and should be considered as a more comfortable alternative to nasal packing.

Citation: Akkan S, Çorbacıoğlu ŞK, Aytar H, et al. Evaluating effectiveness of nasal compression with tranexamic acid compared with simple nasal compression and Merocel packing: a randomized controlled trial. *Ann Emerg Med.* 2019;74(1):72-78.

Relevance: Anterior epistaxis is a frequent presentation in the acute care setting and anterior nasal packing is a common way to manage it. However, packing causes discomfort to patients during placement and can also result in infection, tissue necrosis, and rebleeding after removal.

Study Summary: The authors compared three methods of stopping anterior epistaxis: nasal compression alone, nasal compression after atomized topical tranexamic acid (TXA), and nasal packing with Merocel. In the primary outcome of stopping bleeding within 15 minutes, there was no significant difference between the topical TXA and Merocel group. However, both of these methods were superior to nasal compression alone. In the secondary outcome of rebleeding rate within 24 hours, the TXA group had significantly fewer events than the other two groups. ■

Cool Running Water Reduces Need for Skin Graft in Pediatric Burns

Key point: Irrigation with 20 minutes of cool running water within

3 hours of injury is associated with reduced need for skin grafting and burn severity in pediatric burns.

Citation: Griffin BR, Frear CC, Babl F, et al. Cool running water first aid decreases skin grafting requirements in pediatric burns: a cohort study of two thousand four hundred ninety-five children. *Ann Emerg Med.* 2020;75(1):75-85.

Relevance: First aid guidelines recommend irrigation of burns with cool running water but alternatives such as still water, ice, and aloe vera are still being used. Though there is no evidence of efficacy of these alternatives, water first aid has been associated with reduced infection, scarring, and mortality in burns. However, no clear association between adequate first aid and improvement in outcomes in pediatric burns has been established.

Study Summary: To address the question, the authors used multivariate regression models to evaluate the relationship between adequate first aid (20 minutes of cool running water within 3 hours of injury) and need for skin grafting in 2,495 children. Ultimately, 9.5% of children required grafting. In the group that received adequate first aid, the odds of requiring a graft were significantly decreased [OR 0.6; 95% confidence interval 0.4 to 0.8]. In addition, adequate first aid was associated with decrease in full-thickness depth as well as hospital admission. Of note, 90% of children received first aid with running water but only about 70% were given the adequate duration. Irrigation of any length was associated with decreased likelihood of requiring a graft but there was a dose-response relationship with adequate first aid leading to the greatest decrease. ■

Dosing Oral Ibuprofen at 400 mg, 600 mg, and 800 mg Offers Similar Efficacy for Short-Term Pain Relief

Key point: The analgesic ceiling dose of ibuprofen of 400 mg/dose

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“Given that clinicians often overestimate patients' healthcare literacy, it may be advisable to provide a brief, patient-friendly explanation of clinical terms.”

is appropriate for short-term pain relief, as higher doses do not result in greater analgesia.

Citation: Motov S, Masoudi A, Drapkin J, et al. Comparison of oral ibuprofen at three single-dose regimens for treating acute pain in the emergency department: a randomized controlled trial. *Ann Emerg Med.* 2019;74(4):530-537.

Relevance: Ibuprofen is one of the most commonly prescribed analgesics in the acute care setting. The analgesic ceiling dose of ibuprofen is 400 mg/dose with a recommended 1,200 mg/day. However, the FDA approved and commonly prescribed dose is 400 mg–800 mg/dose with maximum 2,400 mg/day. This is of concern as the renal and gastrointestinal side effects of NSAIDs are dose-dependent.

Study Summary: The authors hypothesized that that there would be no significant difference in analgesia achieved by 400 mg, 600 mg, or 800 mg doses of ibuprofen. In this randomized, double-blind trial of equivalency, 225 adult patients presenting with acute pain were allocated to three groups receiving the different doses. Then, their pain levels were assessed on a 0–10 numeric rating scale before and 60 minutes after drug administration. The average improvement in pain score from baseline to 60 minutes after drug administration was approximately 2 rating points for each dose. In addition, there was no statistically or clinically significant difference between pain scores across the three doses at baseline or at 60 minutes. ■

Over 80% of Our Patients Do Not Know What Fracture Means

Key point: Providers tend to overestimate the patient population's health literacy level. It is critical that we use patient-friendly language during shared discussion.

Citation: Cosic F, Kimmel L, Edwards E. Patient comprehension of common orthopedic terminology. *Health Lit Res Pract.* 2019;3(3):e187-e193.

Relevance: Effective communication is the cornerstone of medicine and is closely linked to patient and provider satisfaction. Unfortunately, medical terminology is difficult for the average person to understand. Lack of understanding may lead to non-compliance and compromise the patient-doctor relationship. It is therefore important for providers to be aware of the average patient population's health literacy level.

Study Summary: The authors explore patients' knowledge of orthopedic words that are commonly used in the acute care setting with the assumption of patient understanding. One hundred fifty ED patients were given 11 multiple choice questions to answer. Here are the results:

- The average total score was 5 out of 11 correct answers
- 15% of patients chose the correct definition of a fracture
- 81% of patients chose the correct definition of a broken bone
- 50% of patients thought that a fracture was not as bad as a broken bone
- There is no association between patients' perceived comprehension of their condition and their actual comprehension level

Given that the “assumption of patient understanding” referenced above can now be presumed to be incorrect for many patients, it may be advisable to provide a brief, patient-friendly explanation of clinical terms. ■

Tramadol Is Associated with Numerous Adverse Drug Reactions

Key point: There are numerous adverse drug reactions to tramadol, which now include hypoglycemia associated with seizures and hypoglycemic coma.

Citation: Makunts T, U A, Atayee RS, Abagyan R. Retrospective analysis reveals significant association of hypoglycemia with tramadol and methadone in contrast to other opioids. *Sci Rep.* 2019;9(1):12490.

Relevance: Tramadol is an opioid analgesic commonly prescribed due to its relatively low risk of respiratory depression. In recent years, prescriptions for tramadol as well as adverse drug reactions have nearly doubled, prompting the DEA to recategorize tramadol from a schedule V to schedule IV drug. Common to all opioids, adverse drug reactions to tramadol include nausea, constipation, and dizziness. In addition, several case reports have described tramadol-induced hypoglycemia (glucose <70 mg/dL), which was investigated in this article.

Study Summary: The authors assessed over 12 million adverse drug reaction reports from the United States FDA Adverse Event Reporting System and analyzed 145,404 reports in which patients were receiving monotherapy. Tramadol works through several mechanisms: inhibition of serotonin and norepinephrine uptake, inhibition of NMDA receptors, and as an agonist to the μ -opioid receptor. They found that compared to four SNRIs, five drugs with NMDAR activity, and 10 other opioids, tramadol had a significantly higher frequency of hypoglycemic events with reported odds ratios >10. Top adverse events associated with hypoglycemia included seizures and hypoglycemic coma. ■

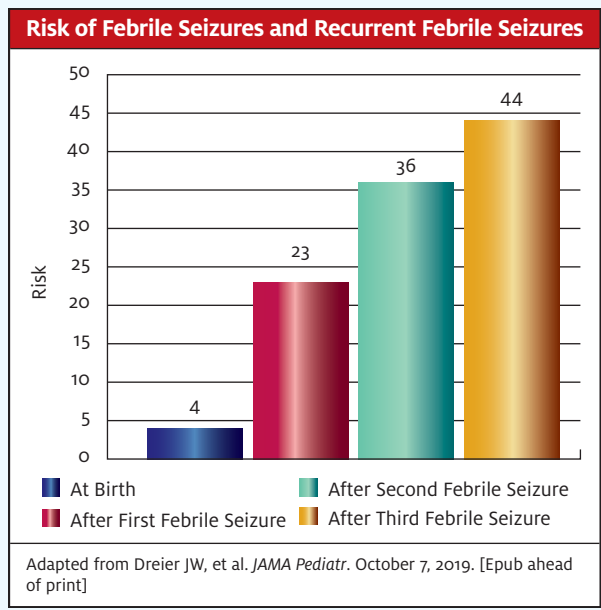
Recurrent Febrile Seizures Are Associated with Increased Morbidity and Mortality

Key point: Approximately 1 out of 4 children will have a second febrile seizure. Recurrent febrile seizures are associated with increased risk of epilepsy and psychiatric disorders.

Citation: Dreier JW, Li J, Sun Y, Christensen J. Evaluation of long-term risk of epilepsy, psychiatric disorders, and mortality among children with recurrent febrile seizures: a national cohort study in Denmark. *JAMA Pediatr.* October 7, 2019. [Epub ahead of print]

Relevance: Approximately 5% of children ages 6 months to 5 years experience at least one febrile seizure, so it is important to be able to educate families regarding prognosis.

Study Summary: This study followed over 2.1 million Danish children for 35 years and evaluated incidence of febrile seizures and their prognostic value. Overall, the rate of febrile seizures was 4% and were more common in boys. The risk of subsequent febrile seizure was 23%, 36%, and 44% after the first, second, and third febrile seizure, respectively. Risk of epilepsy was 2.2% at baseline and increased approximately 3-fold, 5-fold, and 7-fold after the first, second, and third febrile seizure, respectively. Risk of developing a psychiatric disorder increased



from 17% to 29% after a third febrile seizure. Finally, in children who went on to develop epilepsy, mortality was increased from 1% to 1.9%. ■



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A Blistering Rash in an Otherwise Healthy 9-Year-Old Boy

Urgent message: Impetigo is one of the most common skin infections in children, and can have a variable presentation. As such, it is essential that the urgent care provider be able to recognize this common skin infection, and to know the treatment options.

AIMY T. PATEL, MD, FAAP, ALLISON BURRIS, MD FAAP, and NIRAV SHASTRI, MD, FAAP, FAMIA, ABMS-CI

Case Presentation

History

A 9-year-old otherwise healthy boy presents with a 1-week history of an itchy rash on his knee. The rash blistered and burst open, producing clear to yellowish drainage. The rash then spread to his legs, arms, earlobe, and nose with similar appearance and itching. He has no fever or mucous membrane lesions. He has not taken any medications. There are no ill contacts, and he does not have a prior history of similar rashes.

Physical Examination

The patient has a very pruritic rash over his bilateral knees, legs, nose, arms, and earlobe (Figures 1 and 2). The rash is erythematous and pruritic with sharply demarcated edges. There is evidence of ruptured bullae showing an underlying erythematous base with yellow dried crust along the edges.

Differential Diagnosis

- Herpes simplex virus-1 infection
- Bullous impetigo
- Linear IgA dermatosis
- Toxicodendron dermatitis

Herpes simplex virus-1 (HSV-1) lesions usually present as painful vesicular lesions on an erythematous base and can be accompanied by fever with malaise. HSV-1 typically affects the mouth, though it can cause infection at other sites like the genitalia, liver, lung, eye, and central nervous system. It can also be a complication of



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eczema. Skin lesions associated with HSV-1 tend to be clustered in a single anatomic site, though autoinoculation to distant sites can also occur. Primary lesions tend to last 10-14 days and can occur up to 26 days after inoculation.¹

While our patient did have lesions around the nose and earlobe, his rash was not consistent with a primary HSV-1 outbreak because of presentation on various anatomic sites and a lack of pain and systemic symptoms.

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Figure 1.

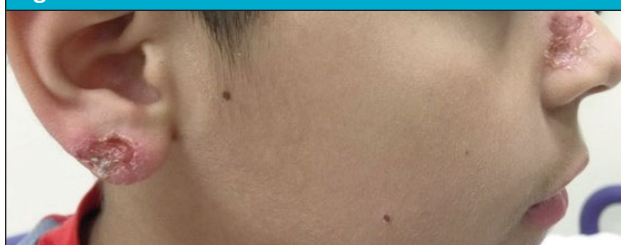


Figure 2.



Linear immunoglobulin A (IgA) dermatosis is an autoimmune blistering disease that is characterized by the linear deposition of IgA in the basement membrane on direct immunofluorescence. This bullous disease can occur in both adults and children. In children, the bullae are tense rather than flaccid, and can be intensely pruritic.² New blisters typically arise in a ring surrounding an older lesion, creating a “cluster of jewels” appearance. It is often misdiagnosed initially as bullous impetigo and can improve on antibiotics, though the diagnosis is questioned when the eruption recurs. To differentiate bullous impetigo from this condition in our patient, the bullae were flaccid and not tense. His lesions also cleared with treatment and have not recurred.

Toxicodendron dermatitis (rhus dermatitis) is a result

of a type IV hypersensitivity reaction to urushiol, found in sap, roots, and leaves of poison ivy, oak, and sumac. It presents typically as linear erythema with pruritis, leading to papules, vesicles, and bullae with clear or yellow fluid. History will include plant exposure 4 to 96 hours prior to the onset of the rash. If left untreated, the rash can last 1–3 weeks.³ Our patient’s condition is differentiated from toxicodendron dermatitis due to lack of recent poison ivy, poison oak, or poison sumac exposure, lack of linear distribution, and absence of typical papules and vesicles.

Discussion

Impetigo is the most common skin infection in children between 2 and 5 years of age. The two presentations that can occur are nonbullous and bullous impetigo.

Bullous impetigo accounts for 30% of impetigo cases and is exclusively caused by *Staphylococcus aureus*, including methicillin-resistant *S aureus* (MRSA).⁴ Impetigo can be further classified as primary (direct bacterial invasion of previously normal skin), or secondary (at sites of minor skin trauma). Minor skin trauma can include abrasions, minor cuts, insect bites, or an underlying skin condition such as eczema.

Nonbullous impetigo is the most common type of impetigo and comprises 70% of the cases. Nonbullous impetigo is primarily caused by *S aureus* and secondarily group A streptococcus.

Nonbullous impetigo presents as papules that progress to vesicles surrounded by erythema. The rash subsequently progresses to pustules that enlarge and rupture to form the classic “honey-colored crusts” that have become pathognomonic for impetigo. Lesions typically occur on the face and extremities. Regional lymphadenitis can occur, but systemic symptoms are unlikely. The rash tends to be localized to one area, but multiple surrounding lesions may occur due to autoinoculation.⁴

Bullous impetigo lesions are characterized by large, flaccid, fluid-filled bullae that can rupture and ooze yellow, honey-colored fluid. After the bullae rupture, there is a pathognomonic collarette of scales on the periphery with a thin brown crust covering the erosions. Lesions typically occur on the trunk, axilla, and extremities. Patients can spread infection to other body sites via autoinoculation by fingers, towels, or clothing. Systemic symptoms can include fever, fatigue, or diarrhea but are rare.⁴

Diagnosis of impetigo is made based on clinical findings, and testing is generally not needed. However, if testing is done, gram stain and culture of purulent fluid

Table 1. Topical and Oral Antibiotic Therapeutic Options for Impetigo¹¹

	Pediatric Dosing	Adult Dosing
Topical antibiotics		
Mupirocin	Apply to affected areas TID x 7-10 days	
Fusidic acid	Not available in the U.S.	
Preferred oral antibiotics		
Cephalexin (Keflex)	25-50 mg/kg/day in 3-4 divided doses	250-500 mg 4 times/day
Dicloxacillin	25-50 mg/kg/day in 4 divided doses	250-500 mg 4 times/day
Alternate for penicillin or cephalosporin hypersensitivity		
Erythromycin	40 mg/kg/day in 3-4 divided doses	250 mg 4 times/day
Clarithromycin	15 mg/kg/day in 2 divided doses	250 mg twice/day
If MRSA suspected or confirmed		
Clindamycin	20 mg/kg/day in 3 divided doses	300-450 mg 4 times/day
Trimethoprim/sulfamethoxazole	8-12 mg/kg (TMP)/day in 2 divided doses	1-2 DS tablets 2 times/day
Doxycycline	2-4 mg/kg/day in 2 divided doses	100 mg 2 times/day

or exudates can identify whether *S aureus* or beta-hemolytic streptococcus is the cause.^{4,5}

Treatment of impetigo, either nonbullous or bullous, includes topical antibiotics, oral antibiotics, disinfectant solution, or a combination.⁶ A *Cochrane Review* of impetigo interventions was published in 2012 and reflected 68 randomized controlled trials that compared various treatments for impetigo.⁶ Overall, topical antibiotics were superior to topical placebo. Two topical antibiotics in particular, mupirocin and fusidic acid, were found to be as least as effective as oral antibiotics for mild disease and equally as effective compared with the other. Isolated, small lesions can be treated with topical antibiotics while larger lesions and/or spreading lesions respond well with oral antibiotics.

Mupirocin is readily available but fusidic acid is not currently available in the United States. Parents might ask about OTC topical antibiotic ointments. Per *Cochrane Review*, bacitracin did not show a significant difference in cure rate compared with placebo⁸ and was significantly worse than cephalexin.⁹ One study looked at fusidic acid compared with neomycin/bacitracin¹⁰; that showed it was significantly more effective, especially with bullous impetigo. First-line treatment for mild nonbullous disease is mupirocin ointment three times daily for 7-10 days. For extensive nonbullous disease and for bullous impetigo, oral antibiotics or oral plus topical antibiotics are typically recommended. Oral antibiotic treatment options are listed in **Table 1**. For mild bullous disease that is dis-

tributed widely, cephalexin is typically chosen due to cost, general susceptibility, and palatability. If extensive lesions are present or there is a concern for MRSA infection, clindamycin or TMP/SMX should be considered as in this case.

Postinfectious sequelae to consider include poststreptococcal glomerulonephritis and rheumatic fever, in cases caused by *S pyogenes*.

Additional History

The diagnosis of bullous impetigo was made based on history and physical examination. This patient was started on oral clindamycin and topical mupirocin ointment treatment with resolution of symptoms within a week's time and no known recurrence of symptoms.

This case highlights the importance of clinical diagnosis and subsequent successful treatment of a common infectious dermatological condition.

Conclusion

The diffuse nature of the rash and the timeline of symptoms at presentation was a challenge for the provider in this case. Bullous impetigo is characterized by large flaccid bullae that can rupture and ooze a yellow honey-colored fluid. Diagnosis is made clinically without need for culture. First-line treatment for mild nonbullous impetigo is topical mupirocin.

First-line treatment for bullous impetigo is an oral antibiotic, such as cephalexin or clindamycin, plus a topical antibiotic, such as mupirocin.



Recognizing common pediatric rash presentations is crucial in an urgent care setting in order to differentiate treatment, avoid unnecessary testing, and to counsel patients on infectivity and expected duration of symptoms. ■

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Summary

- Primary lesions associated with bullous impetigo tend to last 7–10 days, with treatment
- Bullous impetigo accounts for 30% of impetigo cases and is exclusively caused by *Staphylococcus aureus*, including methicillin-resistant *S aureus* (MRSA)
 - Bullous impetigo lesions are characterized by large, flaccid, fluid-filled bullae that can rupture and ooze yellow, honey-colored fluid. After the bullae rupture, there is a pathognomonic collarette of scales on the periphery with a thin brown crust covering the erosions
- First-line treatment for bullous impetigo is an oral antibiotic, such as cephalexin or clindamycin, plus a topical antibiotic, such as mupirocin
 - Nonbullous impetigo accounts for 70% of all cases and is primarily caused by *S aureus* and secondarily group A streptococcus
- Nonbullous impetigo presents as papules that progress to vesicles surrounded by erythema
- Impetigo can be further classified as primary (direct bacterial invasion of previously normal skin), or secondary (at sites of minor skin trauma)
 - Minor skin trauma can include abrasions, minor cuts, insect bites, or an underlying skin condition such as eczema

Evaluation and Diagnosis of Trigger Finger with Current Management Strategies

Urgent message: Appropriate treatment of “trigger finger” in the urgent care setting starts with differentiating that diagnoses from other disorders of the hand. This is relatively straightforward if one finger is involved, but can become more complex with multiple digits.

ALEXANDER M. STOCK, MD and SHAILENDRA K. SAXENA, MD, PHD

Introduction

Trigger finger, also known as stenosing flexor tenosynovitis, is a common hand disorder that affects approximately 2.6% of the general population during their lifetime.¹ For diabetics, the risk of developing trigger finger approaches 4% to 10%, with more complicated presentations involving multiple fingers.¹ In the urgent care setting, differentiating trigger finger from other disorders of the hand and evaluating its severity is crucial to making treatment decisions.

The pathological process required to create trigger finger involves thickening of the first digital, annular (A1) retinaculum that serves as a pulley sheath along the metacarpophalangeal (MCP) joint. With annular narrowing, the digital flexor tendon loses the ability to relax following flexion, resulting in a “triggered finger.” Possible etiologies responsible for fibrosis of the the A1 retinaculum include diabetes mellitus (DM), amyloidosis, repetitive hand motions, and carpal tunnel release (CTR); however, in most patients the cause is often idiopathic.²⁻⁴

A recent review has postulated that viewing CTR as a cause of trigger finger may actually be the result of a publication bias.⁴ It is also important to note that stenosing flexor tenosynovitis is not an inflammatory process, despite the misnomer.^{2,5}



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Urgent Care Evaluation

Establishing a diagnosis of trigger finger can be relatively simple if one digit is involved, but may require some thought if it involves more than one digit (see **Figure 1** on the next page).

Alexander M. Stock, MD is a graduate of Creighton University Medical School, where Sheilendra M. Saxena, MD, PhD is a professor.

Figure 1. An 80-year-old, nondiabetic presents with trigger finger in the fifth digit.



A patient complaining of trigger finger will present with a finger in passive flexion that can be passively, but not actively, extended. As the finger is flexed, a “locking” of the finger, catching, or snapping sound at the MCP joint may be appreciated. Pain is also noted only on the palmar aspect of the MCP joint and may radiate into the palm; however, no erythema is usually appreciable. Painful nodules of the palm may additionally be seen with trigger finger.

Dupuytren’s contracture frequently presents with many similarities, but can be differentiated from trigger finger by its inability to passively extend the finger(s) and painless palmar nodules.

Once the diagnosis of trigger finger has been made, a determination of its severity and duration are required before directing treatment. Ask the patient about the frequency with which they experience locking of the finger, how long the symptoms have persisted, the amount of pain they experience, and range of motion with the digit.

Symptoms of trigger finger lasting longer than 3

months are classified as chronic and should be considered more severe.⁵ Patients exhibiting a snapping sensation of the finger are considered to have the mildest presentation compared with those unable to unlock their finger.

Management

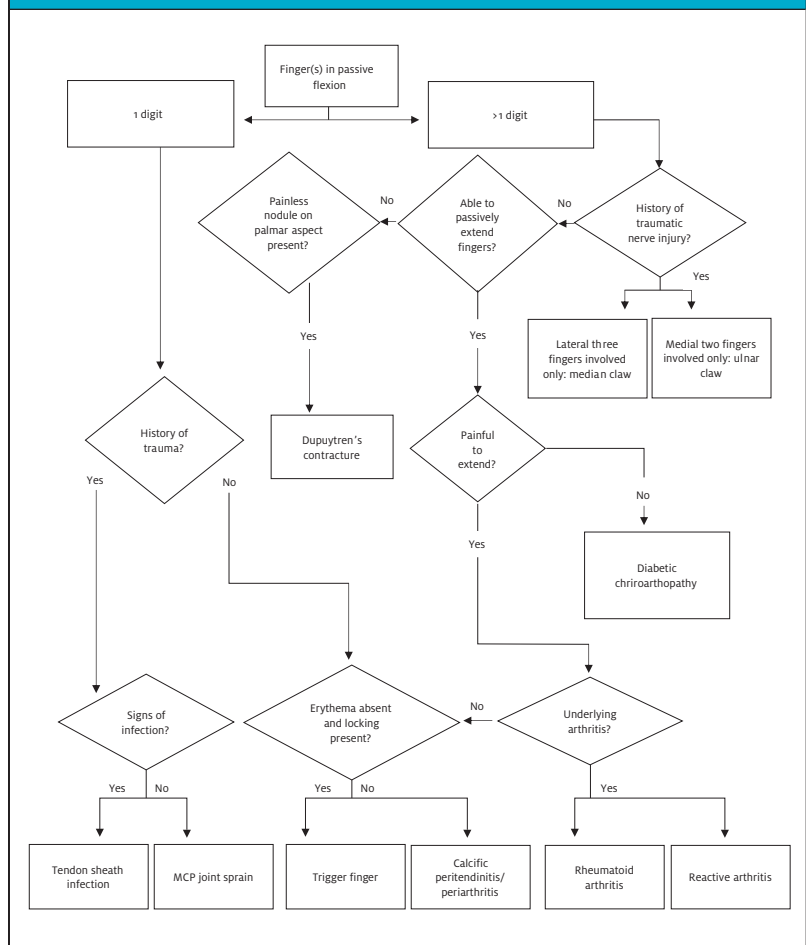
Three methods of treatment have been studied and confirmed to aid in the relief of trigger finger.

The first involves placing the triggered finger in a splint (orthosis) with the MCP joint in 0° position for 3-6 weeks with >18 hours per day wear time.⁵ This is the least invasive treatment option and should be used for patients with mild pain and severity of locking. Modest symptom relief is reported in 46% of patients; complete relief is seen in 31% of patients with compliant orthosis utilization.⁵ Naproxen and other NSAIDs may be combined with arthroscopies to alleviate pain symptoms, but by themselves have not been shown to alleviate trigger finger symptoms.

The second treatment option for trigger finger is an immediate-acting steroid injection combined with a local anesthetic. This option may be exercised as a first-line treatment for patients presenting with chronic trigger finger, inability to unlock the finger, or significant disability.^{1,3,5} Most patients should report some improvement over the first 4 weeks from time of injection. Complete resolution of trigger finger occurs in 57% of patients after the first injection and 86% of patients following a second injection.⁵ Current recommendations discourage more than three injections. Utilizing orthoses with injection may also be utilized, but no randomized controlled data have been reported to show improved cure rates. Steroid injections are not meant to act as an anti-inflammatory, and their mechanism of efficacy is unknown.^{2,5} Use in diabetic patients should be at the discretion of the provider; however, efficacy has been shown to be lower in achieving cure than in nondiabetics.⁶

The third and most definitive treatment option for trigger finger is surgery. Referral to an orthopedic hand specialist is recommended for patients with severe features that decline or fail steroid injection. Diabetic patients with multiple finger involvement or for whom steroids are deemed inappropriate should also be referred for surgical consultation.^{6,7} Currently, debate exists between percutaneous and open surgical approaches. A percutaneous approach allows a patient to mobilize their finger within hours after surgery, can be done in an office setting, and requires less healing time. This technique has an increased theoretical risk of nerve damage to the finger, but has been recently minimized with ultrasound guidance.⁸ A study comparing complication rates between percutaneous and open approaches showed equivalent risks and success rates.⁹ Despite this study, open surgical approach is still the preferred method among surgeons. Recovery time for open surgery is 2 to 3 weeks on average.⁸ Successful cure rates for trigger finger following a meta-analysis with 2-6 month follow-up are 99.44% and 99.45% for percutaneous and open surgical approaches, respectively.⁹ Addition of a steroid

Figure 2. Flow chart for determining the diagnosis of a hand disorder resulting in passive flexion of a digit or digits.



injection at the time of surgery has not shown to be of any increased treatment benefit.⁹ ■

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A 6-Year-Old Boy with Foot Pain After Tripping a Day Earlier

Figure 1.



Figure 2.



Case

The patient is a 6-year-old boy who cried out in pain after jumping off the fourth step of the stairs in his house yesterday, landing hard on his feet. His mother reports that he has been limping ever since. She applied ice at home, hoping the pain would resolve overnight. It did not.

On exam, you note the pain is located at the base of the first/second metatarsal.

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

THE RESOLUTION



Differential Diagnosis

- Salter type II fracture
- Cuboid fracture
- Navicular compression fracture
- Compartment syndrome
- Impacted fracture at the base of the first metatarsal

Diagnosis

This patient was diagnosed with an impacted fracture at the base of the first metatarsal, with buckling of cortex on AP view and impacted cortical discontinuity noted on oblique view. This injury is also known as a bunk bed fracture (pediatric Lisfranc).

Learnings/What to Look for

- This is a common pediatric fracture, but one that is often overlooked due to the subtle deformity of the proximal first metatarsal
- Mechanism of injury is typically a fall from a sufficient height, resulting in a flexion force that wedges the oblique first

cuneiform-first metatarsal epiphysis into the first metatarsal-second metatarsal interspace

- The injury is more severe than indicated by the bone injury, in that ligaments are involved in subluxation
- The pathogenesis of adult Lisfranc tarsometatarsal dislocation is the model for the pediatric equivalent

Pearls for Urgent Care Management and Considerations for Transfer

- If the injury is limited to a nondisplaced fracture, management is conservative (immobilization and appropriate pain management)
- Displaced fractures (or any more complex injury involving tarsometatarsal joints) often require surgery with closed or open reduction, internal fixation, and immobilization

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



A 69-Year-Old Man with a 2-Month History of Shortness of Breath and Mild Chest Pain

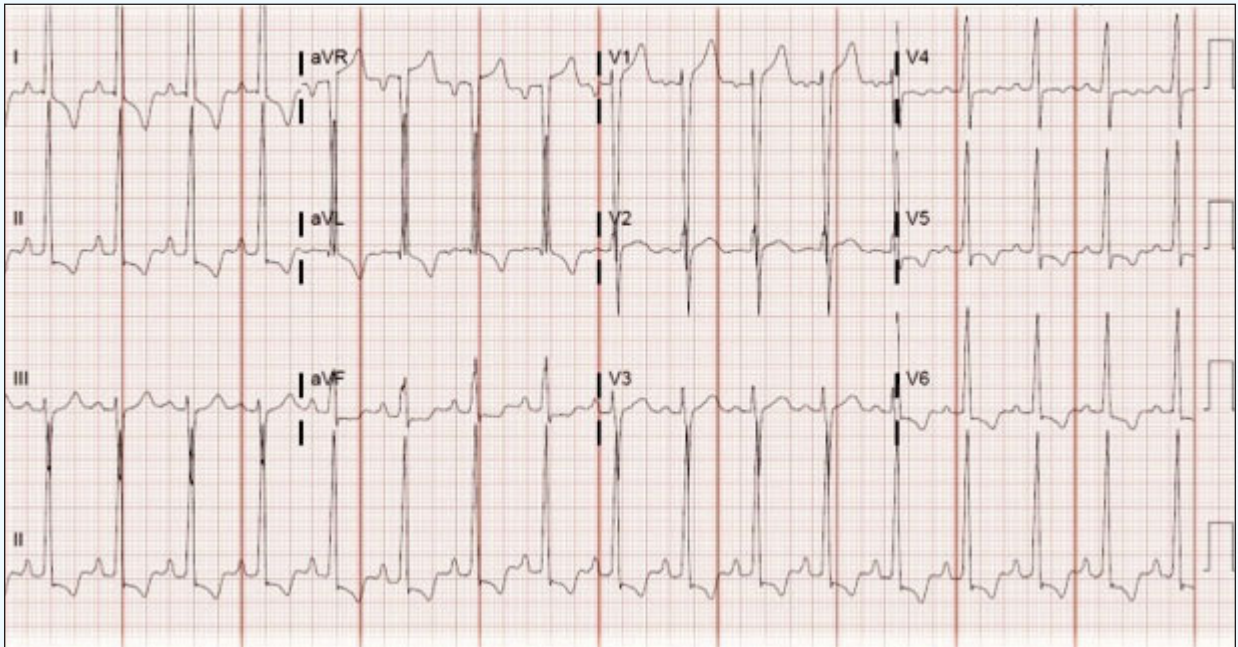


Figure 1.

Case

The patient is a 69-year-old man with shortness of breath and mild chest pain of 2 months duration. He has felt it unnecessary to see his “regular doctor” because his complaints haven’t gotten worse, but conceded to visit urgent care today at the insistence of his family.

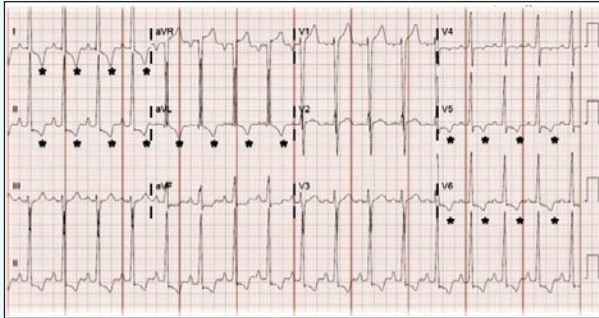
When asked, he acknowledges a history of congestive heart failure and hypertension.

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

THE RESOLUTION

Differential Diagnosis

- Diffuse subendocardial ischemia
- Left ventricular hypertrophy (LVH) with strain
- ST-elevation myocardial infarction (STEMI)
- Non—ST-elevation myocardial infarction (NSTEMI)
- Wellens syndrome



*Leads with “strain” pattern of ST-depressions and asymmetric t-wave inversions.

Diagnosis

This patient was diagnosed with left ventricular hypertrophy (LVH) with strain. The ECG reveals sinus tachycardia with a rate of 102 beats per minute, large amplitude QRS complexes, and prominent t-wave inversions primarily in the lateral leads (I, aVL, V5, V6). The morphology and distribution of the t-wave inversions are particularly important to note, as this distinction can help differentiate between more chronic, stable changes and acute changes that require more immediate attention.

Several electrocardiographic criteria exist for left ventricular hypertrophy, and none of them are particularly sensitive (~50%), but they are quite specific (85%–90%). Two of the more commonly cited criteria are shown below:

Select Electrocardiographic Criteria for Left Ventricular Hypertrophy (QRS Amplitude)

Sokolow-Lyon Criteria	S V1 + R V5,6 > 35 mm OR R aVL > 11 mm
Cornell Criteria	R aVL + S V3 > 28 mm for men OR > 20 mm for women

Repolarization abnormalities are commonly associated with left ventricular hypertrophy, namely asymmetric t-wave inversions and ST-depressions that predominate in the lateral leads—the so-called “strain” pattern, as with this ECG. It is not uncommon to see discordant ST changes associated with LVH, meaning ST changes in the opposite direction as the QRS complex. Notice

that ST-depressions are seen in leads with up-going QRS complexes (I, II, aVL, V5, V6), and ST-elevations are seen in leads with down-going QRS complexes (aVR, V1). In fact, while multilead ST-depression and aVR ST-elevation have been described as a pattern strongly associated with left main or triple vessel disease (ie, diffuse subendocardial ischemia), it is also commonly seen with LVH.

T-wave inversions can also indicate acute ischemia, but the t-wave inversions of acute ischemia tend to be symmetric. When deep and symmetric t-waves are seen in the anterior precordial leads while the patient is chest-pain free, it may indicate critical stenosis of the left anterior descending artery—Wellens syndrome.

While ST-elevations are seen in V1 and aVR, they do not represent STEMI. ST-elevations associated with STEMI are more commonly straight or convex upward in appearance (ie, “tombstone” morphology). If STEMI were the diagnosis, one would expect the presentation to be more acute, as opposed to 2 months of symptoms without an acute change. Most importantly, if an old ECG is available for comparison (as it was with this patient), one could confirm the unchanged presence of the ST/T changes. NSTEMI cannot necessarily be ruled out based on the ECG; it requires a rise and/or fall in serial cardiac biomarkers, but the sub-acute to chronic presentation is not consistent with NSTEMI.

Learnings/What to Look for:

- Electrocardiographic findings of LVH include large-amplitude QRS complexes (see text for definitions)
- LVH can be associated with repolarizations abnormalities including ST-depressions and asymmetric t-wave inversions in the lateral leads (I, aVL, V5, V6)
- When in doubt, compare to prior ECGs

Pearls for Urgent Care Management and Considerations for Transfer

- If the patient is acutely symptomatic with either chest pain, shortness of breath, or with unstable vital signs (ie, hypoxia) then immediate referral to the emergency department is indicated
- If the ECG reveals classic LVH findings but the patient is not acutely symptomatic, consider blood pressure control as hypertension is the most likely culprit; however, acute control is not necessary

Acknowledgment: Images and case provided by Benjamin Cooper, MD, FACEP, assistant professor and associate program director, McGovern Medical School, Department of Emergency Medicine, The University of Texas Health Science Center at Houston.



A 70-Year-Old Man with Hand Numbness and Pain



Case

The patient is a 70-year-old male who presents to urgent care with numbness, pain, and difficulty opening his hands. His son, who drove his father to the appointment, notes that the skin also looks “bunched up in places.” The physician also observes what look like raised scars. The thumb and index finger seem unaffected.

Upon questioning, the patient says he started noticing smooth nodules “a couple years ago.” He attributed that to his many years as a carpenter. He also reports a decades-long tobacco habit and that he is an alcoholic who has been in recovery for 3 years.

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

THE RESOLUTION

**Differential Diagnosis**

- Dupuytren's contracture
- Rheumatoid arthritis
- Carpal tunnel syndrome
- Trigger finger

Diagnosis

This patient was diagnosed with Dupuytren's contracture, a fibroproliferative condition involving the palmar aponeurosis. At present, the pathophysiology of the disorder is not entirely understood, although several factors are believed to contribute to fibroblastic proliferation and altered collagen profiles, including specific platelet-derived fibroblast growth and transforming growth factors. White men of northern or eastern European descent aged 60 years or older are most commonly affected.

Learnings/What to Look for

- Initial symptoms include thickened nodules or plaques (Grade 1), followed by fibrous band development (Grade 2)
- With progression and increased fibrosis, flexion contractures develop (Grade 3)
- Patients may also present with similar findings in the plantar fascia
- Presentation can be unilateral or bilateral, with one hand typically being more severe than the other.

- Risk factors include alcohol abuse, tobacco use, and certain family history; evidence supports an autosomal dominant pattern of inheritance
- Research has identified nine loci associated with genetic susceptibility to Dupuytren's contracture; six of the loci contain genes that encode proteins in the Wnt-signaling pathway; it is postulated that aberrations in this signaling pathway are related to the process of fibromatosis in the disease

Pearls for Urgent Care Management and Considerations for Transfer

- Treatment of Dupuytren's contracture varies according to severity
- Nonsurgical options that may be administered in the urgent care center, depending on the severity of the condition, the provider's experience, and available resources include enzyme injections and steroid injections
- Low-energy radiation therapy may provide symptom relief and prevent worsening of the condition
- Open surgery or needle aponeurotomy may be necessary
- A small portion of patients with Dupuytren's contracture also develop Peyronie's disease

Acknowledgment: Images and case courtesy of VisualDx (www.VisualDx.com/JUCM).



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Ringling in 2020 with CPT Changes

■ MONTE SANDLER

It's that time of year again. The American Medical Association has implemented the 2020 Current Procedural Terminology (CPT) code set. This year we have 394 changes: 248 additions, 71 deletions, and 75 revisions. All changes took effect on January 1.

While the impact to urgent care is minor, several items bear highlighting.

Health Behavior Assessment and Intervention

The codes in the Health Behavior Assessment and Intervention section are used to report services provided to improve a patient's health and wellbeing utilizing psychological and/or psychosocial interventions. Services focus on the assessment and intervention on factors complicating medical conditions and treatments that are physical in nature.

For 2020, the AMA revamped this section by deleting codes 96150 to 96155 and establishing the new codes 96156-96171. The "+" indicates an add-on code.

With the new set of codes comes a fresh set of guidelines to explain the difference between assessment and interventions. *Assessments* include evaluation of the patient's responses to disease, illness or injury, outlook, coping strategies, motivation, and adherence to medical treatment conducted through health-focused clinical interviews, observation, and clinical decision making. *Interventions* include promotion of functional improvement, minimizing psychological and/or psychosocial barriers to recovery, and management of and improved coping with medical conditions with services provided individually, in a group of two or more patients, and/or to the family with or without the patient present.

At least 16 minutes of service are required to report codes 96158, 96164, 96167, and 96170. Evaluation and management



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

CPT	Description
96156	Health behavior assessment, or reassessment (ie, health-focused clinical interview, behavioral observations, clinical decision making)
96158	Health behavior intervention, individual, face-to-face; initial 30 minutes
+96159	Health behavior intervention, individual, face-to-face; each additional 15 minutes (list separately in addition to code for primary service)
96164	Health behavior intervention, group (2 or more patients), face-to-face; initial 30 minutes
+96165	Health behavior intervention, group (2 or more patients), face-to-face; each additional 15 minutes (list separately in addition to code for primary service)
96167	Health behavior intervention, family (with the patient present), face-to-face; initial 30 minutes
+96168	Health behavior intervention, family (with the patient present), face-to-face; each additional 15 minutes (list separately in addition to code for primary service)
96170	Health behavior intervention, family (without the patient present), face-to-face; initial 30 minutes
+96171	Health behavior intervention, family (without the patient present), face-to-face; each additional 15 minutes (list separately in addition to code for primary service)

services should not be reported by the same provider on the same date.

Revised Codes

When looking at year-end coding changes, it is as important to review revised codes as it is to look at the new or deleted codes. While continued use of the codes may not result in denials, clinics should be aware of changes to the code description to make sure the documentation supports the services reported.

Following are two codes commonly reported in the urgent care setting that have been revised for 2020:

■ **Meningococcal Vaccine - CPT 90734**

The description for code **90734** was revised to make it consistent with the new code **90619** and to distinguish the type of meningococcal vaccine and carrier it describes.

2019 Description

Meningococcal conjugate vaccine, serogroups A,C,Y and W-135; quadrivalent (MCV4 or MenACWY), for intramuscular use

2020 Description

Meningococcal conjugate vaccine, serogroups A,C,W,Y quadrivalent, diphtheria toxoid carrier (MenACWY-D) or CRM197 carrier (MenACWY-CRM), for intramuscular use

Documentation should include the exact vaccine product administered.

The description for code **90619** is *Meningococcal conjugate vaccine, serogroups A, C, W, Y, quadrivalent, tetanus toxoid carrier (MenACWY-TT), for intramuscular use.*

■ **Complete Acute Abdomen Series - CPT 74022**

The description for code **74022** was revised to define the views included in a complete acute abdomen series. Previously the code did not specify the number of abdominal views included.

2019 Description

Radiologic examination, abdomen; complete acute abdomen series, including supine, erect, and/or decubitus views; single view chest

2020 Description

Radiologic examination, complete acute abdomen series, including **2 or more views of the abdomen (eg, supine, erect, decubitus), and a single view chest**

Documentation should include interpretation of two or more views of the abdomen and a single view of the chest. ■

Crosswalk

2019 Code	For 2020 see...
96150	96156
96151	96158
96152	+96159
96153	96164 +96165
96154	96167 +96168
96155	96170 +96171



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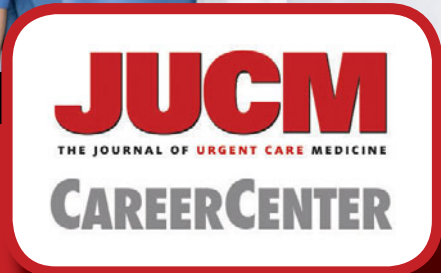


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Want to Help Curb Antibiotic Overprescribing? Here’s a Good Place to Start

Urgent care took more than its fair share of lumps when *JAMA Internal Medicine* published a Research Letter with the findings of a retrospective cohort study that showed widespread prescribing of antibiotics even when none was warranted, across multiple settings. Since then, the industry has made a concentrated effort to lead the way in improving antibiotic stewardship. The Urgent Care Association, for one, launched a campaign to reward urgent care operators that undertook specific steps to promote responsible use of antibiotics with Antibiotic Stewardship Commendations.

Questions remain, however. How to curb inappropriate prescribing without overcorrecting and withholding necessary medications from patients who need them?

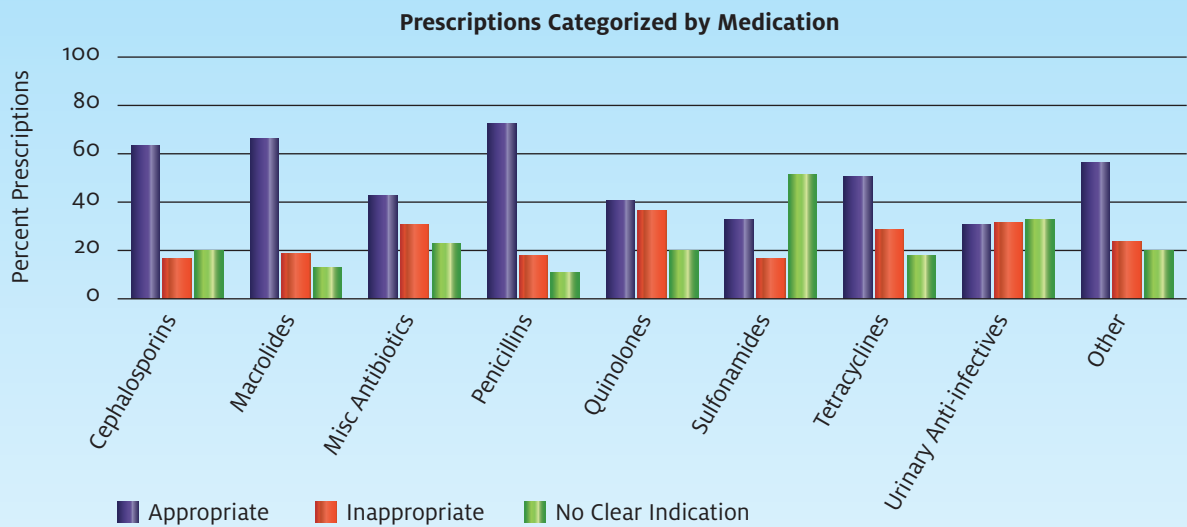
Data published recently in *BMJ* might offer some clues. Drawn from the 2015 National Ambulatory Medical Care Sur-

vey, the report identifies a few risk factors, for lack of a better term, for inappropriate antibiotic prescribing. For example, male patients who spent a higher-than-average period of time with a nonprimary care specialist were significantly more likely to receive an antibiotic prescription without a proper indication than others.

The article also exposed an expansive gray area, in that 18% of prescriptions for antibiotics had no documented indication.

One particular data grouping might be helpful to the urgent care clinician. The *BMJ* article broke down appropriate vs inappropriate antibiotic prescriptions (as well as those for which there was no indication) by medication. See the graph below for details—and consider whether your own habits support the industry-wide effort to ensure antibiotics remain a safe, effective option for patients who really need them. ■

DRUGS MOST LIKELY TO BE PRESCRIBED APPROPRIATELY VS INAPPROPRIATELY



Adapted from Ray MJ, Tallman GB, Bearden DT, et al. Antibiotic prescribing without documented indication in ambulatory care clinics: national cross sectional study. *BMJ*. 2019; 367:l6461.



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