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CLINICAL **cme**

*'Probably Strep' Is
Potentially Dangerous—
Don't Overlook Unexpected,
but Risky, Diagnoses*

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Finding Urgent Care (and the Value of Recognizing a Specialty)

■ GUY MELROSE, MB, ChB

I arrived in New Zealand 11 years ago, a doctor without direction and certainly with no inkling of urgent care. I was one of those doctors who had always hoped to find their ultimate career path whilst at university. Alas, whilst I was able to remove some options (here's looking at you Ob/Gyn), no single specialty sufficiently inspired me to follow that rabbit hole through to its conclusion.

So, my medical career began with an eclectic mix of jobs and travel, mainly focused around the emergency department. Maintaining this level of generalism seemed sensible, until such time as a specialty found me.

As a young person, the ED was an exciting and flexible option. Yet in the back of my mind, I always assumed the career that would suit my broad interest in medicine whilst also addressing my growing need for a work-life balance would be general practice (or family practice, as it's known in the U.S.).

Despite having great respect for both my GP and EM colleagues, neither specialty seemed to adequately tick the right boxes enough to allow me to commit comfortably and headlong into further training. I considered musculoskeletal and sports medicine, but again I wasn't convinced I'd found my calling. All the while, I watched members of my medical school class ascend the ladder and advance their professional careers.

I fell in love with New Zealand in 2005. Having lived my entire life in the UK, I spent a year living and working in another country (something I would recommend to all doctors). Upon returning to England I had a hankering to one day live and work again in Aotearoa, the land of the long white cloud, as the Maori refer to New Zealand. That opportunity came in 2009, in part to allow my wife to further her medical training and in part to assuage my desire to set foot once more on these



wonderful islands.

I was asked by my locum tenens agent what work I would be interested in doing. I answered that I had been working in EDs, but I would likely end up practicing as a GP.

She asked me "Have you thought about accident and medical practice?" (the name given to the branch of medicine we now call urgent care).

"What is that?" I asked.

"It is like a mix of GP and ED," she answered.

"Sure," I said, thinking more about returning to NZ than my career, if I'm being honest.

Upon arriving in New Zealand, I was given a tour of the clinic on my first day and immediately texted my locum agent saying that not only was this the perfect workplace but that she may have found my perfect job. A few days later, I learned there was a vocational training fellowship in accidental and medical practice and that was it. A career I did not even know existed had



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

URGENT PERSPECTIVES

suddenly announced itself to me in a “Eureka!” like moment of enlightenment. All the bits I enjoyed from EM, mixed with all the bits of GP that appealed to me, but without the quality-of-life issues that both those two specialties held over me.

I could now see myself practicing urgent care medicine for the rest of my medical career. Knowing this branch of medicine was officially recognized by New Zealand’s medical council, and that it had a full four-year Fellowship program gave me confidence to decide on urgent care as a career.

But why does this matter? Surely practicing medicine is about the interaction with your patients, about making people better. Should it matter that a postgraduate training pathway exists or that a group of like-minded clinicians gather under one banner? Does having a government body officially recognize your work as an independent specialty mean anything?

It makes a huge difference. Practicing medicine is difficult, stressful, and full of uncertainty. It is not as straightforward as just seeing patients, diagnosing, and treating them. There are so many potential pitfalls, with an ever-expanding knowledge base surrounded by the diagnostic uncertainty only an organism as fickle as the human body can create.

In order to exist comfortably, and thrive, within the modern medical world, we need support. A postgraduate training program delivered by a college that brings together and supports a community of like-minded clinicians is the best way of ensuring best practice. This creates a sense of supported personal growth, which with it brings a measured confidence in the work that you are doing. Ultimately, this then results in better patient care, along with better clinician self-care. It creates pride in what you do and a sense of belonging within the wider medical establishment. It matters to feel recognized.

In the modern healthcare arena, the need for urgent care is undeniable. Family physicians are increasingly focused on chronic disease management, and emergency departments are dealing with acute life- and limb-threatening conditions. Urgent care meets the needs of the population that fall between the two. This population will only continue to grow, and it needs the healthcare world to expand to meet that demand. The best way to expand that clinician base, and to ensure the very best healthcare delivery, is for there to be a government-recognized postgraduate training pathway. ■



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CLINICAL

13 Streptococcal Pharyngitis and Its Sidekicks: Common and Uncommon Etiologies

“Sore throat” is the go-to example when describing why patients choose urgent care instead of waiting days to see their primary care physician (or hours in the waiting room at the ED). And with good reason; it really is the most common presenting complaint in urgent care. There’s danger in assuming you know the etiology before digging deeper, however, and certainly in prescribing antibiotics out of habit.

Colin Johnson, DO, PGY-3 and Evan Johnson, OMS III

ORIGINAL RESEARCH

19 Antibiotic Stewardship and Sinusitis: A Quality Improvement Project



Patient satisfaction is the Holy Grail in some circles. Unfortunately, the quest to keep patients who demand antibiotics happy may sometimes lead providers away from the appropriate treatment decisions. Could educational sessions shore up clinicians’ confidence in standing their ground?

Mindy L. Seybold, DNP, ARNP, FNP-C and Holly Tse, MD

HEALTH LAW AND COMPLAINTS

25 Can Employers Mandate the COVID-19 Vaccine?



Every year, we try to convince the general public that nearly everyone should get a flu shot. The stakes will be even higher when a COVID-19 vaccine arrives. The question is, can employers compel their workers to get a shot for their own (and the public’s) good?

Alan Ayers, MBA, MAcc

CASE REPORT

29 A 69-Year-Old Female with Hypertension, Dyslipidemia, and a Constellation of Otolaryngologic Symptoms



Epiglottitis is *not* just a disease of childhood. In fact, it’s becoming more common among adults. Identifying the true cause of an isolated sore throat—and treating accordingly—could preclude airway compromise and the need for emergency cricothyroidotomy.

Zachary DePriest, MS, PA-C

CLINICAL

35 Antibiotic Stewardship in Pediatric Acute Otitis Media—Pearls and Pitfalls



Children are prone to ear infections. This isn’t news. However, just because something is common doesn’t mean the path to sound treatment decisions is clear. Consider the nuances—and whether antibiotics are necessary at all.

Kathryn Doran, DO, FAAP

NEXT MONTH IN JUCM

Concussions, historically, have been as mysterious as they are heavy with the potential for devastating outcomes. Thanks to the urgent care industry’s advances in both on-site resources and the regard in which patients view us, more and more patients present to urgent care with possible concussions. In the December issue of *JUCM*, we will offer several new, original articles to help keep you up to date on the current thinking in assessing, managing, and following through on the care of patients with head injuries.

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Ask someone who understands the basic nature of urgent care why a patient would choose to go there instead of the emergency room or to their primary care physician, and they'd probably mention "sore throat" as the quintessential complaint. It's probably just strep, after all, and not an *emergency*. But no one wants to wait days to see their PCP—and for relief from their discomfort.

And yet, underestimating the potential harm when it's "only" a sore throat can have serious, even deadly, consequences for the patient.

If you need even a slight reminder of this, you need to read Streptococcal Pharyngitis and Its Sidekicks: Common and Uncommon Etiologies (page 13), by **Colin Johnson, DO, PGY-3** and **Evan Johnson, OMS III**. In that article, the authors address the fact that even though pharyngitis is a common—perhaps the most common—complaint in urgent care, not all sore throats are created equal. In fact, in worst-case scenarios, delayed diagnosis and treatment can lead to catastrophic outcomes.



Colin Johnson is an emergency medicine resident at Adena Regional Medical Center. Evan Johnson is a student at Des Moines University College of Osteopathic Medicine.

Sinusitis is another common complaint that can be deceptively simple. As such, it may be easy for some providers to start writing a prescription even before the patient finishes describing their symptoms—especially if they started doing so by saying, "I think I need an antibiotic." We all want our patients to leave happy...right?



On the other hand, we know that urgent care has gotten a bad rap on the subject of antibiotic stewardship. So, it's important to fight the urge to prescribe unnecessary antibiotics. **Mindy L. Seybold, DNP, ARNP, FNP-C** and **Holly Faber Tse, MD** recognize this, and so devised an initiative to help their colleagues make sound, evidence-based decisions on when to (or not to) prescribe antibiotics. You can read about their efforts in Antibiotic Stewardship and Sinusitis: A Quality Improvement Project, starting on page 19.

Dr. Seybold is a primary care nurse practitioner in family practice at Kaiser Permanente in Longview, WA. Dr. Faber is a board-certified internist and pediatrician and the medical director of Medical Home at Legacy Health in Portland, OR.

No matter how sound your approach to prescribing antibiotics, there will always be situations where the right choice is questionable. So, we're grateful to **Kathryn Doran, DO, FAAP** for con-



tributing Antibiotic Stewardship in Pediatric Acute Otitis Media—Pearls and Pitfalls (page 35), in which she recommends considering the nuances regarding the necessity of antibiotics—and weighing the type, delivery vehicle, and duration when you decide they really are needed.

Like acute otitis media, epiglottitis is considered a disease of childhood. It's becoming more common in adults, however, possibly leaving unsuspecting clinicians open to misdiagnosis and inappropriate treatment decisions. **Zachary DePriest, MS, PA-C** recounts the case of an adult who was ultimately diagnosed with epiglottitis, illustrating the importance of maintaining a broad differential and a high index of suspicion. A 69-Year-Old Female with Hypertension, Dyslipidemia, and a Constellation of Otolaryngologic Symptoms starts on page 29.

Mr. DePriest is director of education and staff development at Alteon Health Midwest.



While we're talking about illnesses that can easily be mistaken for another, let's note that the COVID-19 pandemic has now officially stretched into influenza season. Efforts to avoid a "twindemic" rest on protecting patients from both potentially deadly viruses. We're accustomed to drumming up interest in flu shots.

Will patients want to get the COVID-19 vaccine when it's available? And, even more controversial, will employers have the right to *insist* they do? Turn to page 25 and read Can Employers Mandate the COVID-19 Vaccine? to get a better idea. The article, written by **Alan A. Ayers, MBA, MAcc** provides an excellent rationale for understanding the answer to the titular question.

Mr. Ayers is chief executive officer of Velocity Urgent Care and is senior editor, practice management for *JUCM*.

Also in this issue, as always, we appreciate **Monte Sandler**, executive vice president, revenue cycle management for Experity, keeping us up to date on the current developments in revenue cycle management. This month, on page 47, he offers insight into new standards for evaluation and management coding.



Finally, in Abstracts in Urgent Care (page 33), **Avijit Barai MBBS, MRCS, MSc (Critical Care), PgCertCPU, FRNZCUC** distills the most urgent care-relevant information from new articles on antibiotics and dog bites, using scare tactics to discourage patients from seeking antibiotics unnecessarily, the utility of antibiotics post appendicitis, and more. Dr. Barai works in the ED at Christchurch Hospital in New Zealand. His professional interests include urgent care medicine, emergency medicine, critical care, point-of-care ultrasound, and medical education. ■

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Half-Baked Darlings

■ LOU ELLEN HORWITZ, MA

When I was a senior in high school, Michael J. Entrekin was my English Composition teacher. One of the most important lessons I learned from him that year was how to let go of an idea that I loved.

In writing we often come up with something—a phrase, or an idea, or a character, or a plot twist— that we think is pretty clever. We really, really like it, and the more we think about it, the more we like it. Even when we start to tell others about it and they question some of it, we know in our hearts that they are wrong and we are right and they will eventually come around and love it, too. We hang onto it even when everyone is telling us it is no longer important to the story.

Having the discipline to recognize these, love them dearly, and cut them anyway is one of the requirements to turn good writing into great writing. Mr. Entrekin called this “murdering your darlings,” and though he taught me *how* to do it, he didn’t teach me to like it.

One of the problems with having “darling” ideas in the context of our business operations is that we go deaf not only to criticism but also to implementation snags. The pesky details get in the way of our idea going public and going viral and being recognized as amazing, so we tend to push it through to get past those annoying snags—which is when we get into trouble. A darling idea driving a bulldozer wearing a blindfold is not a healthy scenario for your teammates or your organization’s future.

I hate letting go of an idea that I love—but I’ve learned how to make it easier.

Picking Up Where We Left Off—and Moving Forward

While COVID-19 derailed everyone for a bit, and isn’t over by any stretch, people are reopening conversations about where urgent care goes from here. What innovations will we keep? What opportunities do we have? What pre-COVID ideas do we need to reactivate? What has happened outside of us that



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

requires yet another shift in mindset as we think about the future?

Are you *also* asking what you should stop doing or what ideas you should abandon?

I talked last month about some of our “stop doings”—so this month is about abandoning ideas. I know that doesn’t sound like the kind of inspiration you are hoping for when you read this column. Aren’t I supposed to be a champion for urgent care doing amazing things? Yes, yes I am.

But remember why we murder our darlings. *Because they make the story better.* And they make the story better because it gets more focused. We stop being distracted by our darling idea and start paying attention to our *old* darling ideas that got neglected as soon as we launched them (oops) so they never fully blossomed—or they weren’t that great in the first place and are needlessly siphoning off resources that are keeping us from doing amazing things. Off with their heads!

Keeping ‘Half-Baked’ Darlings Off the Shelf

We’ve come up with a strategy internally to *prevent* having un-murdered darlings in the first place. It’s not truly easier than murdering them later, however. Our strategy is to share our ideas when they are still half-baked. We put them out there *with our whole team* while they are still awkward and un-adorable. While the details aren’t figured out and the plan is full of holes and the pitfalls are many. While they are vulnerable and weak.

This does not make the idea pitcher look cool, but it sure does keep a darling, but dumb, idea from going public when it should not. And sometimes, it transforms into something really amazing—which wouldn’t have been possible if we’d hung onto it until it was polished and “ready.”

We consider our members part of our inner circle. What we do, we do for you. What we design, we design for you. As we continue on our transformation journey, we want to engage you in looking at some of our half-baked ideas to see what you think. It won’t make us look cool, but it should result in better products and programs and services for you in the end, and that *does* make us look cool.

Thanks, as always, for being part of our present and our future. ■



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Streptococcal Pharyngitis and Its Sidekicks: Common and Uncommon Etiologies (page 13)

1. The Algorithm for Use of the Modified Centor Criteria allots 1 point to all but which of the following?

- a. Absence of cough
- b. Rhinorrhea
- c. Temp >100.4°F
- d. Tonsillar exudate

2. Peritonsillar abscesses occur most commonly in:

- a. Children between the ages of 2 and 9 years
- b. Infants
- c. Teenagers and adults <40 years of age
- d. Patients over 65 years of age

3. Retropharyngeal abscess can be difficult to distinguish from other causes of sore throat due to:

- a. Location of the abscess
- b. Nonspecific symptoms
- c. Symptoms are similar to those of peritonsillar abscess
- d. None of the above; retropharyngeal abscess is the easiest cause of sore throat to identify

Can Employers Mandate the COVID-19 Vaccine? (page 25)

1. Under the ADA and Title VII of the Civil Rights Act of 1964, employees cannot be compelled by their employers to receive a vaccine. Those Acts cover:

- a. All employers in the United States
- b. Employers with fewer than 10 employees
- c. Employers with 15 or more employees
- d. Employers who engage full- or part-time workers in more than one state

2. Research conducted in the U.S. and the U.K. shows that, compared with the general community, a frontline healthcare worker's risk for COVID-19 is:

- a. Two times higher
- b. Five times higher
- c. Twelve times higher
- d. Negligibly higher

3. The Equal Employment Opportunity Commission has advised that an employee may be exempted from receiving an employer-required vaccine if:

- a. The employee has an ADA disability that would preclude them from doing so
- b. Title VII of the Civil Rights Act of 1964 would preclude the employee from doing so
- c. The employee attests that their religion precludes them from doing so
- d. The employee has already recovered from the illness for which the vaccine is intended

A 69-Year-Old Female with Hypertension, Dyslipidemia, and a Constellation of Otolaryngologic Symptoms (page 29)

1. Differential diagnosis of adult epiglottitis should include which of the following?

- a. Group A beta-hemolytic streptococcal pharyngitis
- b. Ludwig's angina
- c. Retropharyngeal abscess
- d. Viral pharyngitis
- e. All of the above

2. The ratio of the width of the epiglottis to the anteroposterior width of C4 should not exceed:

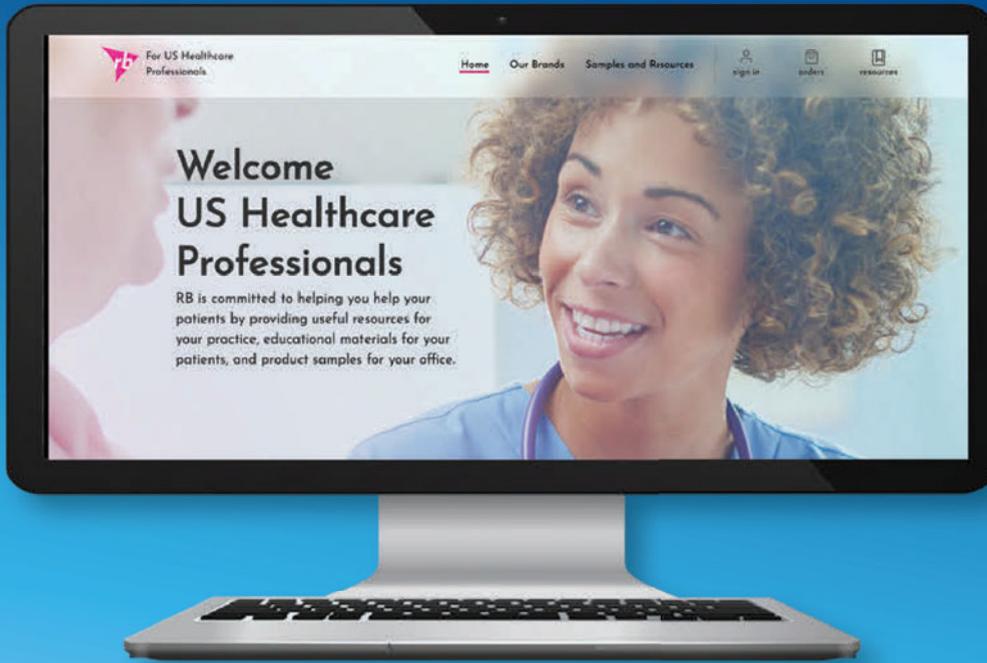
- a. 0.10
- b. 0.15
- c. 0.33
- d. 0.60

3. Which of the following is not considered one of the "3 Ds" in the pediatric population in assessing for epiglottitis?

- a. Diarrhea
- b. Distress
- c. Drooling
- d. Dysphagia



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Streptococcal Pharyngitis and Its Sidekicks: Common and Uncommon Etiologies

Urgent message: Pharyngitis is a common chief complaint in urgent care, but not all sore throats are streptococcal (strep) pharyngitis. Delayed diagnosis and treatment of some causes of sore throat can lead to catastrophic outcomes.

COLIN JOHNSON, DO, PGY-3 and EVAN JOHNSON, OMS III

Citation: Johnson C, Johnson E. Streptococcal pharyngitis and its sidekicks: common and uncommon etiologies. *J Urgent Care Med.* 2020;15(2):13-17.

Epidemiology

Acute pharyngitis accounts for 1%-2% of all visits in the ambulatory setting.¹ Most pharyngitis seen in urgent care is viral in etiology. The most common bacterial cause of pharyngitis is group A beta hemolytic *Streptococcus* (GABHS), which is responsible for 5%–15% of visits for sore throat in adults and 20%–30% in children.²

Case

An otherwise healthy 28-year-old man presented to urgent care after several days of fever and sore throat that worsened with swallowing, leading to decreased oral input. He denied any sick contacts. He was seen a few days prior and had a negative influenza and rapid strep test. He had been given a prescription for amoxicillin at the initial visit due to concern for strep pharyngitis but his symptoms did not improve.

Physical Exam

The patient was well appearing but visibly uncomfortable. His throat exam revealed erythema with tonsillar exudates bilaterally. The tonsils were swollen bilaterally, somewhat worse on the right. No uvular deviation was noted. He had no stridor, difficulty breathing, or drooling.



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ing. The remainder of his exam was normal. Lungs were clear without wheezing, heart had a regular rate and rhythm without murmur, and abdomen was soft and nontender.

Urgent Care Management

The patient was referred to the local emergency department due to concerns for peritonsillar or retropharyngeal abscess based on the degree of swelling.

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Table 1. Microbial Etiology of Acute Pharyngitis	
Organisms	Clinical syndrome(s)
Bacterial	
Group A streptococcus	Pharyngotonsillitis, scarlet fever
Group C and group G streptococcus	Pharyngotonsillitis
<i>Arcanobacterium haemolyticum</i>	Scarlatiniform rash, pharyngitis
<i>Neisseria gonorrhoeae</i>	Tonsillopharyngitis
<i>Corynebacterium diphtheriae</i>	Diphtheria
Mixed anaerobes	Vincent's angina
<i>Fusobacterium necrophorum</i>	Lemierre's syndrome, peritonsillar abscess
<i>Francisella tularensis</i>	Tularemia (oropharyngeal)
<i>Yersinia pestis</i>	Plague
<i>Yersinia enterocolitica</i>	Enterocolitis, pharyngitis
Viral	
Adenovirus	Pharyngoconjunctival fever
Herpes simplex virus 1 and 2	Gingivostomatitis
Coxsackievirus	Herpangina
Rhinovirus	Common cold
Coronavirus	Common cold
Influenza A and B	Influenza
Parainfluenza	Cold, croup
EBV	Infectious mononucleosis
Cytomegalovirus	CMV mononucleosis
HIV	Primary acute HIV infection
Mycoplasma	
<i>Mycoplasma pneumoniae</i>	Pneumonitis, bronchitis
Chlamydia	
<i>Chlamydia pneumoniae</i>	Bronchitis, pneumonia
<i>Chlamydia psittaci</i>	Psittacosis
CMV, cytomegalovirus; EBV, Epstein-Barr virus; HIV, human immunodeficiency virus	
Adapted from: Shulman ST, et al. Clinical practice guideline for the diagnosis and management of group A streptococcal pharyngitis: 2012 update by the Infectious Diseases Society of America. <i>Clin Infect Dis</i> . 2012;55(10):e86-e102.	

Differential Diagnosis for Acute Pharyngitis

Viral Pharyngitis

Viruses are the most common cause of pharyngitis. In addition to sore throat, patients commonly also experience cough, low-grade fever, conjunctivitis, and general malaise. Physical exam will often show an erythematous oropharynx.

Viral pharyngitis is more likely if there is no tonsillar exudate, drooling, stridor, tonsillar asymmetry or palatine

petechiae. Diagnosis is clinical. Common viruses causing pharyngitis include rhinovirus, adenovirus, and coronavirus. A more detailed list of viruses related to pharyngitis can be found in **Table 1**.² No testing or antibiotics are necessary; however, GABHS testing is reasonable depending on severity of pharyngitis relative to other symptoms. The condition is self-limited with supportive care alone.

GABHS (ie, Strep Pharyngitis)

GABHS pharyngitis is most common in children and young adults. It is rare in children <3 years of age and adults >40 years of age. Signs and symptoms of strep pharyngitis include sore throat, fever, tonsillar swelling, tonsillar exudate, cervical lymphadenopathy, and lack of cough (known collectively as the Centor criteria). The modified Centor criteria includes the patient's age. (An algorithm for use of the modified Centor criteria can be seen in **Table 2**.) Palatine petechiae are uncommon, but when present this finding is 95% specific for GABHS.³

A rapid antigen detection test (RADT) to confirm strep pharyngitis is recommended. RADTs have high specificity for group A strep. It is unnecessary to obtain throat culture on positive RADT due to their high specificity. In low-risk populations (ie, older adults), a negative RADT does not require confirmatory culture because the incidence of GABHS in adults is quite low.² Pediatric patients less than 3 years of age are unlikely

to have strep pharyngitis and have a low likelihood of complication if diagnosed. Thus, it is not recommended to routinely swab children younger than 3 unless they have direct contact with an individual who has been diagnosed with GABHS.

It is almost always appropriate to treat positive RADTs or throat cultures with antibiotics. Strep pharyngitis is most often benign and even more likely to be so if identified and treated. When left untreated, patients are at

Table 2. Algorithm for Use of the Modified Centor Criteria	
Criteria	Points
Absence of cough	1
Swollen and tender anterior cervical lymph nodes	1
Temp >100.4°F	1
Tonsillar exudate	1
Age	
3-14 years	1
15-44 years	0
≥45 years	-1
Total score	
Adapted from: Shulman ST, et al. Clinical practice guideline for the diagnosis and management of group A streptococcal pharyngitis: 2012 update by the Infectious Diseases Society of America. <i>Clin Infect Dis</i> . 2012;55(10):e86-e102.	

[Editor's note: The Infectious Diseases Society of America recommends treating only in cases of positive RADT or throat culture. Considering empiric antibiotics would be reasonable in settings where these tests are not immediately available (eg, via telehealth).]

higher risk for certain complications such as peritonsillar abscess, retropharyngeal abscess, cervical lymphadenitis, and mastoiditis. Acute rheumatic fever and post-streptococcal glomerulonephritis can occur following resolution of the pharyngitis. While relatively rare, these conditions are thought to be secondary to immune response and not directly due to strep infection.⁴

Although most causes of pharyngitis in the urgent care center will be either viral or GABHS-related, the following etiologies should be included in the differential:

■ Peritonsillar Abscess (PTA)

Peritonsillar abscesses occur most commonly in teenagers and young adults <40 years of age, with GABHS being the most common etiology. Signs and symptoms of PTA include unilateral sore throat, fever, painful swallowing, and when advanced, difficulty opening the mouth (ie, trismus), and voice changes. Physical exam findings can be similar to strep pharyngitis, but may be differentiated with the presence of drooling, muffled voice (AKA “hot potato voice”), and contralateral uvular deviation. PTA can generally be diagnosed clinically without imaging. (See **Figure 1**.) When there is diagnostic uncertainty, imaging such as soft issue CT of the neck with IV contrast or ultrasound can help confirm the diagnosis and differentiate from other causes.^{5,6} The gold standard for confirmation (and treatment) is purulent fluid removal on needle aspiration.

Left untreated, PTA can lead to respiratory compromise or hemorrhage from necrosis into the carotid sheath. Treatment is generally drainage of the PTA with either needle aspiration, incision and drainage, or immediate tonsillectomy. Patients should be treated with systemic corticosteroids such as prednisone and antibiotics such as amoxicillin/clavulanate, clindamycin, or second- or third-generation cephalosporins. Patients with mild symptoms, no trismus or airway compromise, or small abscesses may be able to be treated with only antibiotics.⁷

■ Retropharyngeal Abscess (RPA)

Retropharyngeal abscesses develop in the potential space retropharyngeally in the posterior pharynx. Due to the location of these abscesses, RPA can be difficult to distinguish from other causes of a sore throat. Additionally, the physical exam on these patients may be completely normal other than subtle posterior pharyngeal bulging.

RPAs are most common in toddlers and school-age children. They are often preceded by a recent upper respiratory infection or trauma. The presentation of RPA is often similar to PTA. Unique findings on exam that should lead to concern for RPA include neck stiffness and muffled voice. Refusal to extend the neck is a concerning finding on exam



and should heighten suspicion in an appropriately aged child for RPA.

CT scan of the neck with IV contrast is the preferred imaging modality for evaluation and diagnosis. As with PTA, early recognition and treatment are crucial. Patients who present with concern for airway compromise due to RPA may require a definitive airway. These patients should be emergently transferred to the ED by EMS, as management will require incision and drainage by an otolaryngologist. Consideration for starting antibiotics is reasonable but should not delay referral to a nearby ED.

Whereas the conventional thought has been that all peritonsillar abscess diagnoses should receive incision and drainage, several recent studies have shown that oral antibiotic therapy may be equally effective for small or early PTA.⁷

■ Mononucleosis

Mononucleosis, more commonly known as “mono”, is usually caused by the Epstein-Barr virus. The spread is primarily through saliva. Mono is primarily a disease of adolescence.

Patients with mononucleosis typically present with fever, sore throat, lymphadenopathy, and significant fatigue. The presence of hepatosplenomegaly should be assessed on exam.

Diagnosis of mononucleosis is typically based on clinical evaluation and a heterophile antibody test (AKA Monospot). Treatment is supportive and antibiotics are not recommended.

Patients should be advised not to share drinkware or toothbrushes, or kiss others while symptomatic to prevent spread. Patients should also be advised to avoid contact sports or potentially injurious activities due to increased risk of splenic rupture.

Patients with mononucleosis started on antibiotics, such as amoxicillin, may present with a maculopapular rash due to hypersensitivity reaction, which generally starts a few days after initiating the antibiotics; this may occur up to 95% of the time.⁸ If this occurs, the antibiotics should be discontinued. The rash is self-limited.

■ Epiglottitis

Epiglottitis describes a condition of inflammation and edema of the epiglottis. It was previously commonly caused by *H influenzae* type B. Since the advent of the HiB vaccine it is now much rarer in children. Adults are now affected with epiglottitis more often than children.

In addition to sore throat, patients will commonly be leaning forward and drooling as swallowing becomes progressively more difficult. A muffled voice is also commonly observed.

Findings suggestive of epiglottitis can be seen on a lateral neck x-ray. However, CT scan or direct visualization of the epiglottis with laryngoscopy are more sensitive (although rarely feasible in urgent care).

Encouraging a patient with suspected epiglottitis to remain calm is important because agitation and anxiety can worsen airway obstruction. The patient may require intubation to ensure their airway stays patent; however, intubation should be performed in the most controlled setting possible to minimize risk of failure.⁹ Once an airway has been established, antibiotic therapy is the next priority. This is an emergent diagnosis and early recognition is extremely important to minimize risk of airway occlusion.

■ Thrush

Thrush is a fungal infection of the oral cavity and/or the esophagus. It is most commonly caused by *Candida* species of yeast. Thrush most commonly affects patients with corticosteroid inhaler use, dentures, recent antibiotic use, HIV, diabetes other immunocompromised states.¹⁰ Patients may complain of a sore throat and difficulty swallowing, and may also notice white plaque on their tongue or posterior oropharynx. Thrush is primarily a clinical diagnosis. The exam will reveal white plaques

on the tongue that can be scraped off. The mainstay of treatment is antifungals. For mild-to-moderate cases, antifungals, such as nystatin, can be applied to the oral cavity alone. For more severe cases or patients with esophageal candidiasis, systemic fluconazole is recommended.

■ Gonococcal (GC) Pharyngitis

There are 820,000 cases of gonorrhea per year in the United States.¹¹ It can be transmitted by different routes, including orally. GC pharyngitis is predominantly a disease affecting men who have sex with men (MSM) and is increasing,¹² but it can occur in other individuals practicing receptive oral-genital sex. Patients may have mild or no symptoms and the presentation may be difficult to distinguish from other infections, such as GABHS. Signs of infection elsewhere including the rectum, vagina, or urethra with a suggestive sexual history of risk should raise suspicion for GC pharyngitis. Testing for GC pharyngitis involves swabbing the posterior pharynx and sending for PCR. Patients with concern for or confirmed GC pharyngitis should receive ceftriaxone 250 mg IM as well as azithromycin 1 g orally due to increasing GC resistance to cephalosporins.¹¹ Patients should also be tested for chlamydia, syphilis, and HIV and counseled about safe sex practices.

■ Diphtheria

Diphtheria is an extremely rare cause of pharyngitis in the United States with only two cases reported from 2004-2017,⁶ but occurs in other locations around the world with 7,100 cases reported in 2016. The mortality rate is significant (5%-10%) and approaches 20% in those <5 years of age and the elderly.⁶ Diphtheria is characterized by fever, sore throat, cough, and development of pseudomembranous plaques on the posterior oropharynx which appear as a thick gray coating that can be extensive enough to create airway compromise. Treatment for diphtheria involves administration of diphtheria antitoxin as soon as the diagnosis is suspected.¹³ The CDC recommendations for antibiotic therapy are erythromycin or penicillin.⁶

Outcome of Case

Upon arrival to the emergency department, the patient was given a dose of ampicillin/sulbactam and dexamethasone IV. A CT with IV contrast showed an early peri-

“Differential diagnosis for acute pharyngitis includes viral pharyngitis, strep pharyngitis, peritonsillar abscess, retropharyngeal abscess, mononucleosis, epiglottitis, and diphtheria.”

tonsillar abscess. After discussion with ENT, he was discharged on amoxicillin/clavulanic acid.

Conclusion

When a patient presents to urgent care with a sore throat, the most likely etiologies are viral or GAS; however, it is important to maintain a broad differential including PTA, RPA, epiglottitis, mononucleosis, thrush, gonococcal pharyngitis, and diphtheria, as several of these causes can be life-threatening if the diagnosis is missed. Patients requiring imaging or emergent management should be referred to the ED; 911 should be activated if there are concerns for airway compromise. When indicated, antibiotic treatment should be geared toward reducing already-low risk for secondary infection and decreasing risk of spread and symptoms duration.

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Antibiotic Stewardship and Sinusitis: A Quality Improvement Project

Urgent message: Acute sinusitis poses frequent challenges in urgent care where patient volumes are high and patient satisfaction is valued. An educational session and an algorithmic clinical decision-support tool were implemented in a multisite urgent care quality improvement project which resulted in a statistically significant reduction in antibiotic prescribing for acute sinusitis.

MINDY L. SEYBOLD, DNP, ARNP, FNP-C and HOLLY TSE, MD

Abstract

Background/Objective: Sinusitis is a common upper respiratory condition seen in urgent care centers, as it is in primary care practices and, increasingly of late, telemedicine. Despite a strong body of evidence to support the use of practice guidelines for sinusitis, consistency in diagnosis and treatment of acute sinusitis is lacking. Antibiotics are often prescribed inappropriately, leading to unnecessary side effects, medication interactions, antibiotic resistance, and increased costs. There is evidence that antibiotic stewardship interventions can improve guideline adherence. The purpose of this project was to implement an antibiotic stewardship program and evaluate its effect on antibiotic prescribing for adults with acute sinusitis by urgent care providers.

Methods: Changes in antibiotic prescribing were evaluated for adults with acute sinusitis following provider education on current sinusitis guidelines and implementation of a clinical decision support (CDS) tool at 14 affiliated urgent care centers in an urban and suburban

metropolitan area of the Northwest. Number of antibiotic prescriptions, frequency of guideline adherence for diagnosis and drug choice, and use of at least one guideline-recommended supportive measure were assessed with a random sampling of sinusitis charts, pre- and postintervention (n=74 and n=72, respectively).

Results: Antibiotic prescribing rates for acute sinusitis decreased by 20% (p=0.012) in the month following intervention. There were small but insignificant improvements in guideline adherence for diagnosis, drug choice, and supportive measure recommendation.

Discussion: This multisite quality improvement project with a statistically significant reduction in antibiotic prescribing for acute sinusitis shows that a simple educational intervention for providers coupled with an algorithmic CDS tool can be effective. This is a promising approach that could be easily implemented in urgent care and other ambulatory settings.

Citation: Seybold ML, Tse H. Antibiotic stewardship and sinusitis: a quality improvement project. *J Urgent Care Med.* 2020;15(2):19-24.

Background

Sinusitis is a common upper respiratory illness with over 30 million adults in the U.S. diagnosed annually.¹ A retrospective cohort study found sinusitis to account for 11.1% of over 2.7 million urgent care visits from a large nationwide database.² Sinusitis accounts for more

than 1 in 5 antibiotic prescriptions for adults, making it the fifth most common diagnosis responsible for antibiotic use and resulting in \$5.8 billion in annual health-care costs. Current trends that emphasize patient satisfaction incentivize providers to prescribe treatments that will meet patients' expectations, such as antibiotics.

For the purposes of this article, the terms *sinusitis* and *rhinosinusitis* are used interchangeably. Rhinosinusitis is an inflammation of the mucosal lining of the nasal passage and paranasal sinuses.³ Symptoms lasting less than

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Table 1. ABRS Diagnosis Criteria

1. Onset with severe symptoms or signs of high fever ($\geq 39^{\circ}\text{C}$ [102°F]) and purulent nasal discharge or facial pain lasting at least 3-4 consecutive days at the beginning of illness; or
2. Onset with persistent symptoms or signs compatible with sinusitis, lasting for at least 10 days without evidence of clinical improvement; or
3. Onset with worsening symptoms or signs characterized by the new onset of fever, headache, or increase in nasal discharge following a typical viral URI that lasted 5-6 days and were initially improving (“double sickening”)

Table 2. ICD-10 Codes

J01.00	Acute sinusitis, maxillary
J01.10	Acute sinusitis, frontal
J01.20	Acute sinusitis, ethmoidal
J01.30	Acute sinusitis, sphenoidal
J01.40	Acute sinusitis, pansinusitis
J01.90	Acute sinusitis, unspecified
B96.89	Acute bacterial sinusitis
B97.89	Acute viral sinusitis

4 weeks can be classified as acute, 4-12 weeks subacute, and more than 12 weeks chronic. Differentiating between acute bacterial rhinosinusitis (ABRS) and viral rhinosinusitis is clinically challenging. Acute rhinosinusitis usually begins after an upper respiratory infection (URI), then inflammation moves into the paranasal sinuses. It is estimated that 90%-98% of acute rhinosinusitis cases are viral, whereas only 2%-10% of cases can be attributed to bacterial causes.³ Prescribing practices should reflect the low rate of bacterial disease. Even when antibiotics are indicated by guideline, the Infectious Diseases Society of America (IDSA) reports that approximately 70% of patients with acute rhinosinusitis improve spontaneously in placebo-controlled randomized clinical trials.²

Unnecessary antibiotic use exposes patients to preventable and potentially serious health problems. The emergence of drug-resistant bacteria is a critical public health threat with a reported 2.8 million antibiotic-resistant infections occurring each year and claiming the lives of 35,000 people in the U.S. each year.⁴ The CDC estimates that 30% of all antibiotics prescribed in the outpatient setting are unnecessary.⁵ Urgent care centers have the highest percentage of visits leading to an antibiotic prescription and were much more likely to prescribe antibiotics unnecessarily for respiratory illnesses that don't require antibiotics.² Pulia, et al conclude that a global increase in antimicrobial-resistant infections, in combination with limited development of new antibiotics, raises concern for a “post-antibiotic era” with potential catastrophic consequences.⁶

Clinical Practice Guidelines

The current guidelines for the diagnosis and treatment of sinusitis were developed by the Infectious Diseases Society of America and American Academy of Otolaryngology-Head and Neck Surgery.^{1,3} Due to their simplic-

ity and clarity, the recommendations from IDSA were used as the primary source for our study. Some recommendations (such as duration of treatment) were integrated from the AAO-HNS guidelines. Diagnosis of ABRS can be differentiated from viral sinusitis when the patient meets any of the three clinical presentations: *severe, persistent, or worsening* (Table 1).

The most common pathogens responsible for ABRS are *H influenzae*, *S pneumoniae*, and *M catarrhalis*. According to the IDSA guidelines, first-line treatment for non-penicillin allergic patients with ABRS is amoxicillin with clavulanate, due to increasing β -lactam resistance in some regions of the United States. Doxycycline may be used as a first-line alternative regimen for adult patients who are penicillin-allergic. Respiratory quinolones (moxifloxacin and levofloxacin) are also options but are not superior to amoxicillin-clavulanate and carry a higher prevalence of adverse effects and increased costs. Macrolides (azithromycin and clarithromycin), TMP/SMX (Bactrim), and second- and third- generation oral cephalosporins are not recommended for empiric therapy.

Supportive measures should be recommended for both ABRS and viral sinusitis. This includes analgesics (acetaminophen and NSAIDs), antipyretics, intranasal saline irrigation, intranasal corticosteroids, and hydration. Neither topical nor oral decongestants or antihistamines are recommended as supportive care treatments due to low efficacy.

Methods

An antibiotic stewardship program was implemented at 14 urgent care centers using the Plan – Do – Study – Act model for change.⁷ A clinical decision support (CDS) tool was developed for use at the point-of-care with patients with sinusitis symptoms, using the practice guidelines from the IDSA. To evaluate the program's effectiveness, a sample of medical records of adult patients seen for

sinusitis was audited pre- and postintervention.

Setting and Participants

The study was conducted in Legacy GoHealth Urgent Care clinics (n=14) in the Portland, OR metropolitan area. There were approximately 60 providers: physicians, nurse practitioners, and physician assistants. Each clinic was managed under the same leadership and utilized the same electronic health record (EHR) and protocols. The network of clinics provides care in roughly 13,000 patient encounters each month. During peak seasons, the clinics provide care to over 600 patients a month with acute sinusitis. During the study periods, there were 398 and 177 patients diagnosed with acute sinusitis before and after the program implementation, respectively.

Population

Adult patients being treated for acute sinusitis were included in the study. Inclusion criteria were a) age 18 or older and b) diagnosed with acute sinusitis using the *International Classification of Diseases, 10th edition* (ICD-10) codes for acute sinusitis. All eight ICD-10 codes for acute sinusitis were used in order to capture the target population (Table 2). Patients were excluded if they a) had symptoms more than 4 weeks, b) were under 18 years of age, c) had had an ear, nose, and throat (ENT) procedure in the past 1 year, d) had had a history of facial or nasal trauma, e) were treated with an antibiotic in the past 30 days, and f) were immunocompromised. These exclusion criteria were congruent with the guideline’s definition of “uncomplicated acute bacterial rhinosinusitis.” Patients were also excluded if they had another concurrent diagnosis requiring antibiotic treatment (eg, acute otitis media, which might influence choice of antibiotic). Identification of these exclusion criteria during data collection was reliant on thorough history taking and documentation by the provider and thus may not have reliably excluded some patients with such histories. Absent such documentation, we presumed these factors were not present.

Intervention

An educational session was developed to include review of current sinusitis guidelines and introduction of the CDS tool. Education was delivered via a twenty-minute webinar to providers (n=39 in attendance) during a monthly educational meeting and by dissemination of the same content by email to all providers. Attendance at the meeting had an approximate 65% turnout rate. Providers not in attendance were required to view webinar materials and attest to viewing. The CDS tool (see

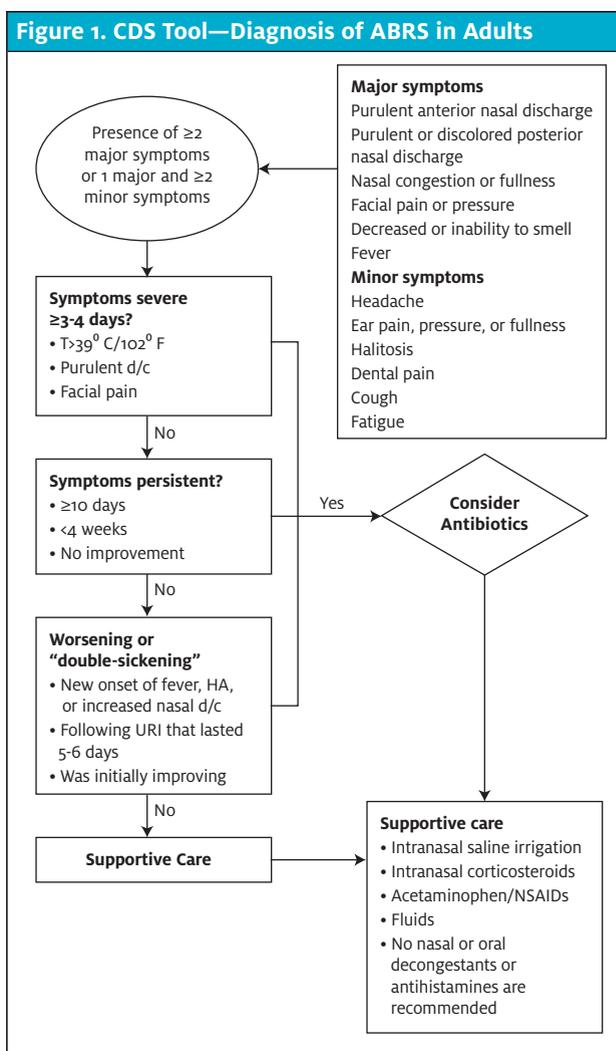
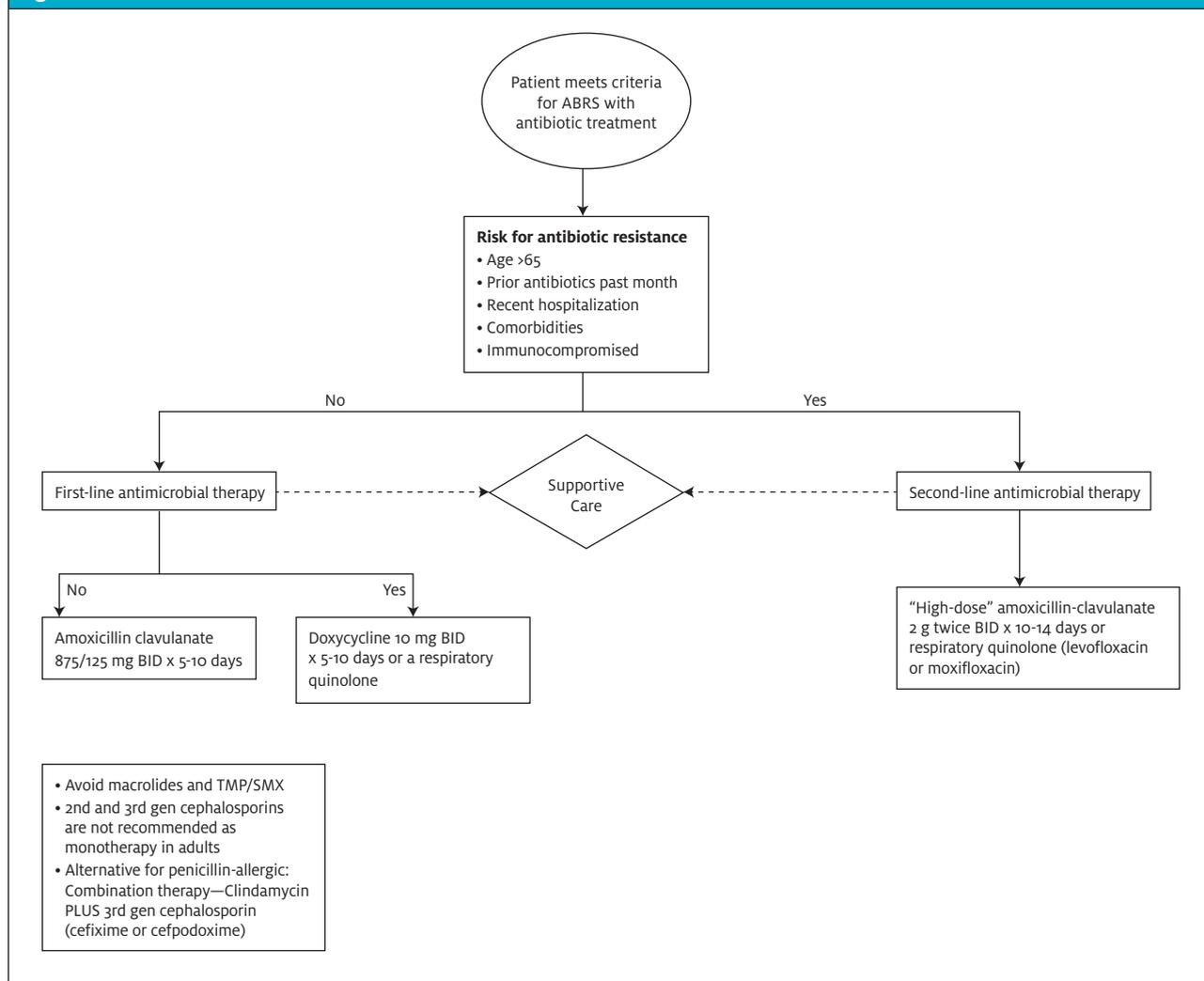


Figure 1 and Figure 2) was created and posted at provider workstations in all 14 clinics and in the online resource portal available to all providers. In-person discussion of the project was held at each of the 14 clinics.

Measures

Pre- and postintervention data were collected through a retrospective review of patient medical records in the EHR. An electronic report was executed by the organizational leadership to identify a list of patients who met inclusion criteria. Charts were obtained for visits during the month before the educational intervention (May 2019) and one month after (July 10, 2019–August 10, 2019), and a random sample was selected. Each included chart was individually reviewed by the DNP student investigator to determine guideline adherence and data

Figure 2. CDS Tool—Treatment of ABRs in Adults



were collected in a spreadsheet with a de-identified patient record number.

Data Analysis

Preintervention totals of each data point were aggregated and compared to postintervention data, looking specifically at the overall number of antibiotic prescriptions, rates of guideline adherence for diagnosis and drug selection, and frequency of guideline-recommended supportive measure in treatment plan (Table 3). P-value was calculated using the chi squared test with continuity correction with Monte Carlo simulation.

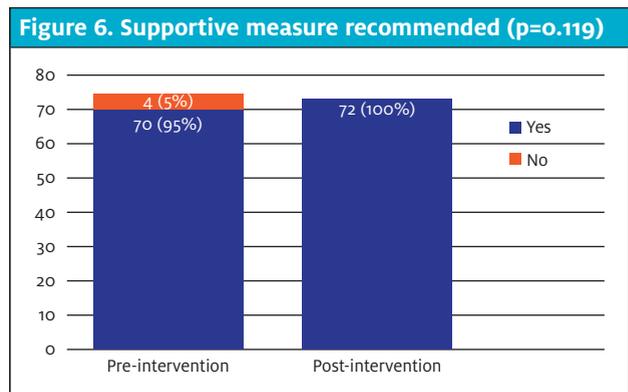
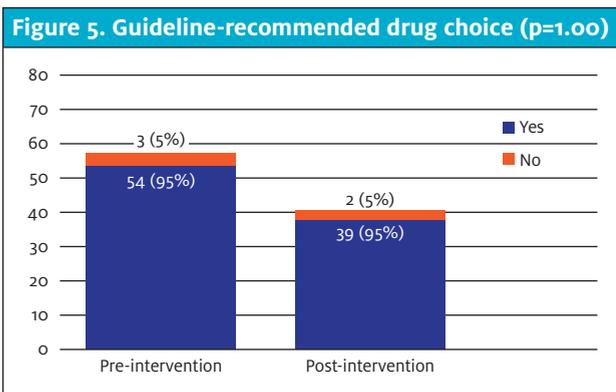
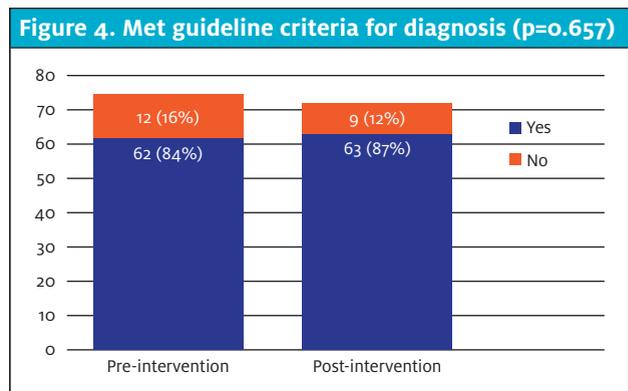
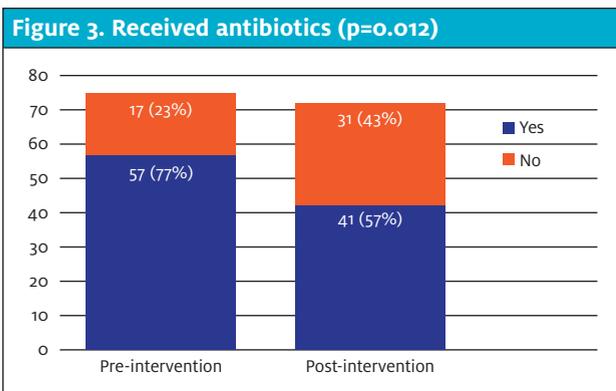
The preintervention audit report consisted of 398 charts of patients diagnosed with acute sinusitis during the month of May. After selecting the sample of every

fifth chart, and eliminating patients with exclusion criteria, a total of 78 charts were reviewed manually. Four charts were later eliminated due to the presence of concurrent diagnoses requiring antibiotics, leaving a sample size of 74. From this sample, 77% (n=57) received antibiotic treatment and 83.8% (n=62) met the guidelines for diagnosis. Twelve patients did not meet the guideline criteria for diagnosis (16.2%), which indicates 21% of the antibiotic treatment group received antibiotics inappropriately. Three of the 57 patients treated with antibiotics were given a guideline-deviant drug selection (5.3%).

The postintervention audit report consisted of 177 patient encounters, a reduction of 65% from the preintervention report. For this reason, the sampling was increased. A total of 75 charts were reviewed individu-

Table 3. Preintervention vs Postintervention			
	Preintervention n=74	Postintervention n=72	P-value*
Guideline adherence for diagnosis	Yes=62 (83.8%) No=12 (16.2%)	Yes=63 (87.5%) No=9 (12.5%)	+3.7%, p=0.657
Antibiotic prescribed	Yes=57 (77%) No=17 (23%)	Yes=41 (57%) No=31 (43%)	-20%, p=0.012
Guideline adherence for drug choice	Yes=54 (94.7%) No=3 (5.3%)	Yes=39 (95.1%) No=2 (4.9%)	+0.4%, p=1.000
At least one guideline recommended supportive measure provided	Yes=70 (94.6%) No=4 (5.4%)	Yes=72 (100%) No=0 (0%)	+5.4%, p=0.119

* P-value calculated using the chi squared test with continuity correction with Monte Carlo simulation. Bold values signify statistical significance at the p<0.05 level.



ally. Three charts were eliminated due to concurrent diagnoses requiring antibiotics leaving a sample size of 72 (Table 3). From this sample, 57% (n=41) received antibiotic treatment and 87.5% (n=63) met guideline criteria for diagnosis. Nine patients (12.5%) did not meet the guideline criteria for diagnosis as determined by lack of documentation of meeting one of the three criteria for diagnosis (Table 1), which indicates 22% of the antibiotic treatment group received antibiotics inappropriately. Only two of the 41 patients treated with anti-

otics were given a guideline-deviant drug (4.9%).

Ethical Considerations

The project design, CDS tool, and educational materials were approved by clinic leadership and IRB exemption was obtained by the organization. IRB approval was obtained from the Gonzaga University Institutional Review Board. In order to protect individual identities and meet HIPAA regulations, no participants' names, initials or other identifiers were collected. Individual

provider performance was not measured and only group data were reported. This quality improvement project had direct oversight by organizational leaders in all stages of planning and implementation.

Discussion

There was a statistically significant reduction in frequency of antibiotic prescribing after the program was implemented ($p=0.012$) (Figure 3). There were statistically insignificant improvements in the area of guideline adherence for diagnosis ($p=0.657$) (Figure 4), correct drug choice ($p=1.000$) (Figure 5), and guideline supportive measure recommendation ($p=0.119$) (Figure 6). The significant decrease in total patients diagnosed with acute sinusitis during the postintervention period compared to baseline volumes ($n=177$ vs $n=398$) is likely due to the seasonality of the illness, with the postintervention time period falling in the summer. This could also be attributed to changes in the use of the acute sinusitis diagnosis codes after the provider education and introduction to the CDS tool.

“This statistically significant 20% reduction in antibiotic prescribing for acute rhinosinusitis shows the value of a simple educational intervention for providers coupled with an algorithmic CDS tool. This approach could be easily implemented in urgent care with a similar method.”

Limitations

Some variables could not be accounted for and may have influenced the outcome. The provider mix was an uncontrolled variable that could have made an impact on the outcomes. Providers were not individually identified during the data collection; therefore, the included patients were not limited to the providers who attended the educational session. Despite the low provider turnout at the educational session (65%), each provider was sent the educational materials by email and required to watch the webinar and attest to it by email. The protocol was also made available online, as well as posted at each site. Due to the large number of providers and some level of provider turnover, it is possible that the preintervention patients were seen by a different mix of providers than the postintervention patients, and who might have had

different prescribing practices. There was also a challenge in directly connecting with each provider due to number of sites and variability of schedules.

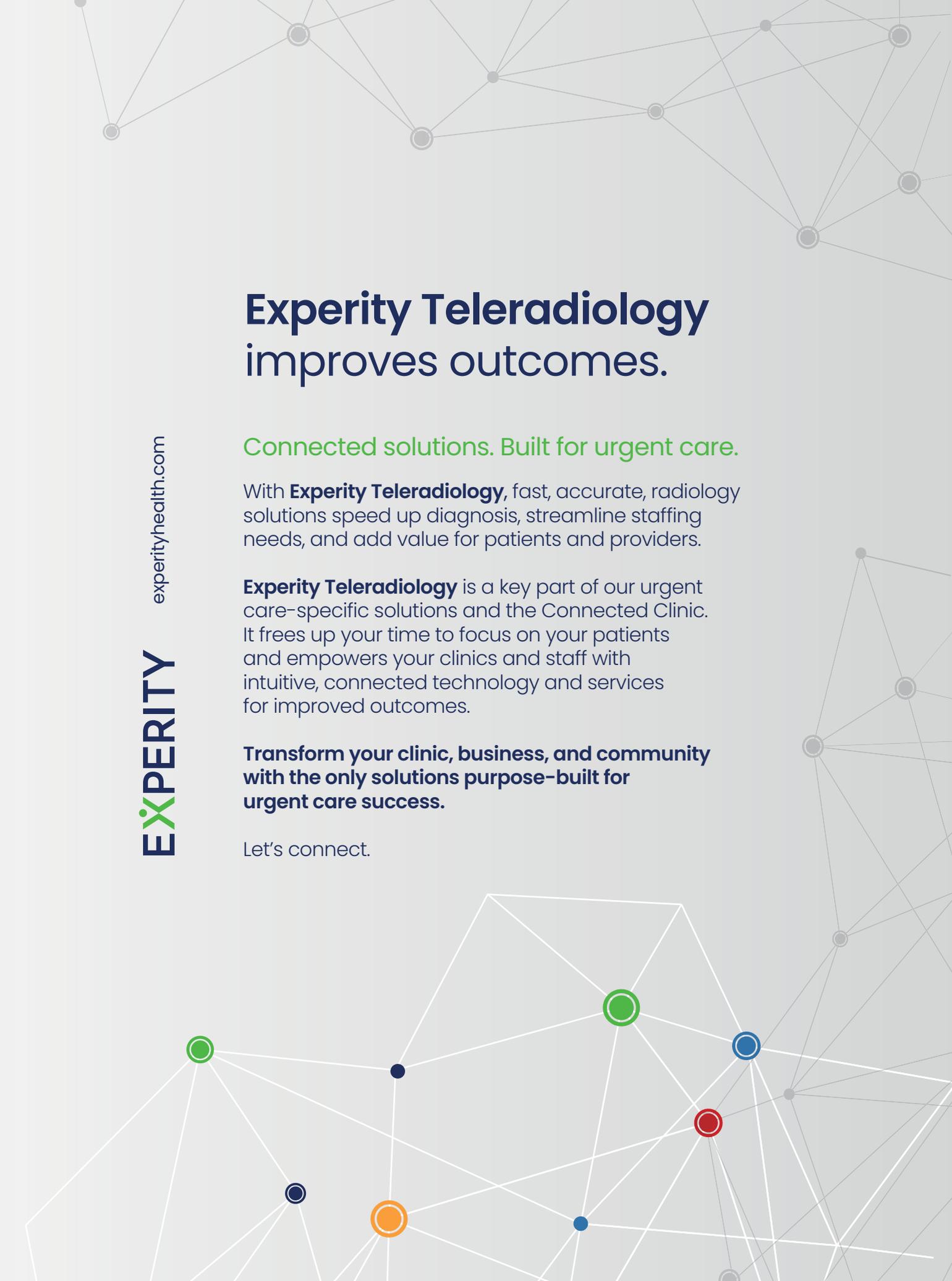
Organization leadership provided informal feedback to the authors. They indicated that most providers did not perceive the guideline education and CDS tool as a significant change in practice. The study was conducted during the summer months when sinusitis and upper respiratory volumes were much lower than in winter, which could have provided more time for provider engagement than during busier months. However, lower volumes could have reduced the focus on quality improvement for this particular diagnosis. Although individual provider feedback was not directly solicited, no negative reactions were expressed. Since patient satisfaction within the organization is highly emphasized, this poses a challenge in that antibiotic prescribing is often perceived as a patient satisfier.

Conclusion

In a high-volume urgent care setting, providers face pressure to see patients quickly. Emphasis on patient satisfaction scores and reviews incentivize providers to prescribe treatments that will meet patients' expectations, such as antibiotics. It is vital for providers to ensure that quality is not sacrificed for convenience in this fast-paced setting. Given the global threat of rising antibiotic resistance, rigorous antibiotic stewardship is becoming increasingly important. This statistically significant 20% reduction in antibiotic prescribing for acute rhinosinusitis shows the value of a simple educational intervention for providers coupled with an algorithmic CDS tool. This is a promising approach that could be easily implemented in urgent care and other ambulatory settings with a similar method. Future directions could include patient education about viral illnesses and adjustment of patient expectations. ■

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Can Employers Mandate the COVID-19 Vaccine?

Urgent message: Based on precedent, urgent care operators and other employers can mandate the COVID-19 vaccine when available, subject to reasonable accommodation for exemptions, which are limited when an employee's role is public- or patient-facing.

ALAN A. AYERS, MBA, MAcc

As we strain our eyes to see the light at the end of the tunnel in this pandemic, many urgent care centers will continue to have front office staff, medical assistants, and providers interacting with the public. In fact, research from the U.K. and U.S. shows that risk of testing positive for COVID-19 is nearly *12-times* higher for frontline healthcare workers compared with individuals in the general community (see **Figure 1**).¹

It stands to reason that both employers and the local department of health would want to see those urgent care employees get vaccinated for the coronavirus when the vaccine becomes available. This article will explore whether the government and employers have the authority to mandate that all frontline healthcare workers get vaccinated, and if so, what medical and religious exemptions must be permitted.

The Short Answer: Yes

In 1905, a man named Jacobson refused to get a compulsory smallpox vaccination in Cambridge, MA pursuant to a city ordinance. Jacobson was arrested, fined, arraigned, and pleaded not guilty. At trial, he challenged the vaccination program on the basis that it was an unreasonable invasion of his rights under the 14th Amendment. The Massachusetts Supreme Court disagreed and held that the vaccination program was constitutional. The United States Supreme Court affirmed, ruling that the vaccination program had a real and substantial relation to the protection of the public health and safety.²

U.S. Supreme Court Justice Harlan wrote that “the liberty secured by the Constitution of the United States to

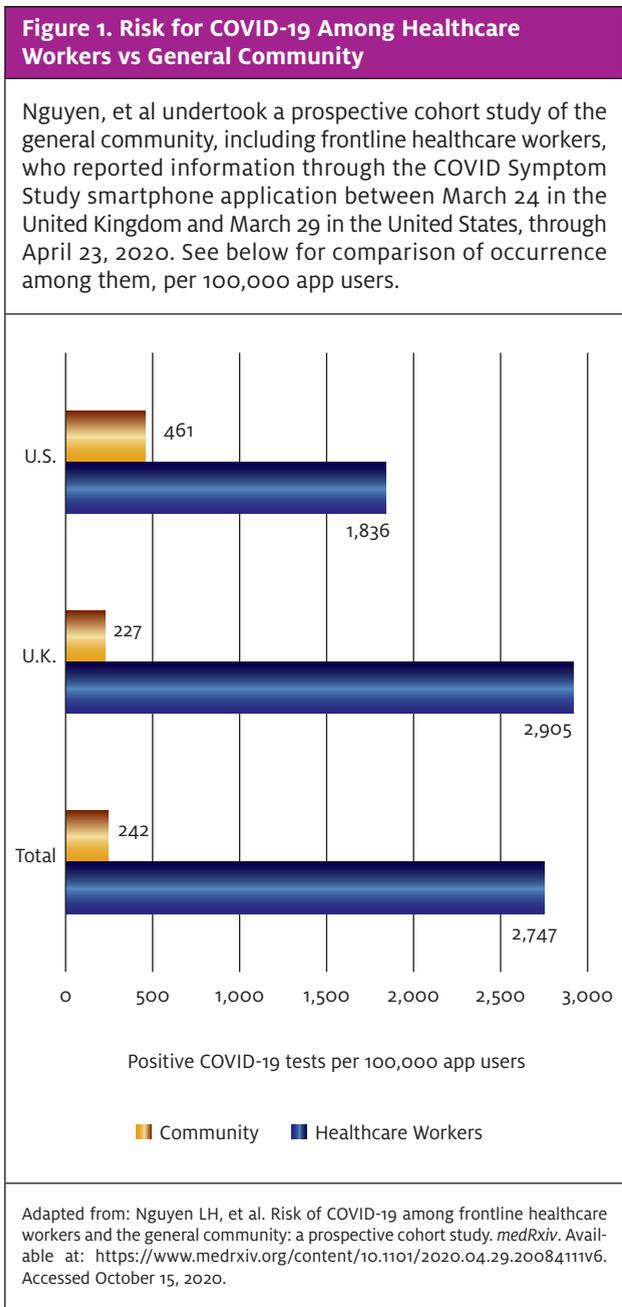


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every person within its jurisdiction does not import an absolute right in each person to be, at all times and in all circumstances, wholly freed from restraint.” He went on to opine:

There are manifold restraints to which every person is necessarily subject for the common good. On any other basis organized society could not exist with safety to its members. Society based on the rule that each one is a law unto himself would soon be confronted with disorder and anarchy.²

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



“In light of the fact that everything in an urgent care center is ‘patient-facing,’ there is arguably no reasonable accommodation that would enable an employee to perform their duties working with patients while not interacting with patients.”

This 115-year-old case is still valid and serves as a template for the current analysis.

Other Government Guidance on Mandatory Vaccinations

In 2009, OSHA provided its position on mandatory flu shots for employees. In response to a letter from Rep. Marcy Kaptur (D-Ohio), OSHA stated that it “does expect facilities providing healthcare services to perform a risk assessment of their workplace and encourages healthcare employers to offer both the seasonal and H1N1 vaccines.”³

OSHA stated that it was essential for employees to be properly informed of the benefits of the vaccinations. That said, while OSHA did not specifically require employees to take the vaccines, it said that an employer may do so.

This spring, the U.S. Equal Employment Opportunity Commission was asked if an employer covered by the ADA and Title VII of the Civil Rights Act of 1964 could compel all of its employees to take the influenza vaccine—regardless of their medical conditions or their religious beliefs during a pandemic.⁴ The agency said no, and that an employee may be entitled to an exemption from a mandatory vaccination requirement based on an ADA disability that prevents them from taking the influenza vaccine. As a result, employers can generally require vaccination as a term and condition of employment, but there are exceptions to this rule.

Exemptions

Employers can mandate a COVID-19 vaccination, but those covered by the ADA⁵ and Title VII of the Civil Rights Act of 1964⁶ cannot compel all employees to take the vaccine regardless of their medical conditions or their religious beliefs during a pandemic. Both laws cov-

Justice Harlan also explained that “real liberty for all” could not exist where each individual person’s right to use his own liberty could be allowed regardless of the injury that may be done to others.² Thus, the court held that an individual’s liberty rights under the U.S. Constitution are not absolute, and the mandatory vaccination law was necessary to promote the interest of public health and safety.

ers employers with 15 or more employees. Significantly, the notion of “reasonable accommodation” is discussed in detail below.

However, as an exception to the exception, under Title VII, employers are not required to grant religious accommodation requests that result in more than a de minimis cost to the operation of the employer’s business.⁷ Even so, urgent care owners should consult an attorney about possible applicable state laws and local with stricter standards.⁸

“An employer can require or mandate a vaccine as a term and condition of employment. However, they must be aware of possible exemptions from this policy where federal or state law provide for an employee’s ADA disability or sincerely held religious belief, practice, or observance.”

Reasonable Accommodation

The EEOC advised that an employee may be entitled to an exemption from a mandatory vaccination requirement based on an ADA disability that prevents them from taking the vaccine. The agency says that this would be a reasonable accommodation barring undue hardship. Also, under Title VII of the Civil Rights Act of 1964, once an employer receives notice that an employee’s sincerely held religious belief, practice, or observance prevents him from taking the vaccine, the employer must provide a reasonable accommodation unless it would pose an undue hardship.

Title VII defines “undue hardship” as anything “more than de minimis cost” to the operation of the employer’s business—a lower standard than under the ADA. That law states that once an employee has made requested accommodation, the employer is obligated to participate in an interactive process of seeking accommodation by making a good-faith effort to work with the employee to seek accommodation.^{9,10} The process

is one by which employer and employee work together to facilitate resolution relating to the employee’s request for accommodation.⁵

In light of the fact that everything in an urgent care center is “patient-facing,” there is arguably *no* reasonable accommodation that would enable an employee to perform their duties working with patients while not interacting with patients. Further, the risk of contracting the virus in the community extends to urgent care employees exposing other employees and patients. Thus, the argument can be made fairly easily that there is no reasonable accommodation or that any possible option would result in significant difficulty or expense to the urgent care business. Because of this, urgent care owners would not likely see many claims of failure to accommodate.¹¹

Summary

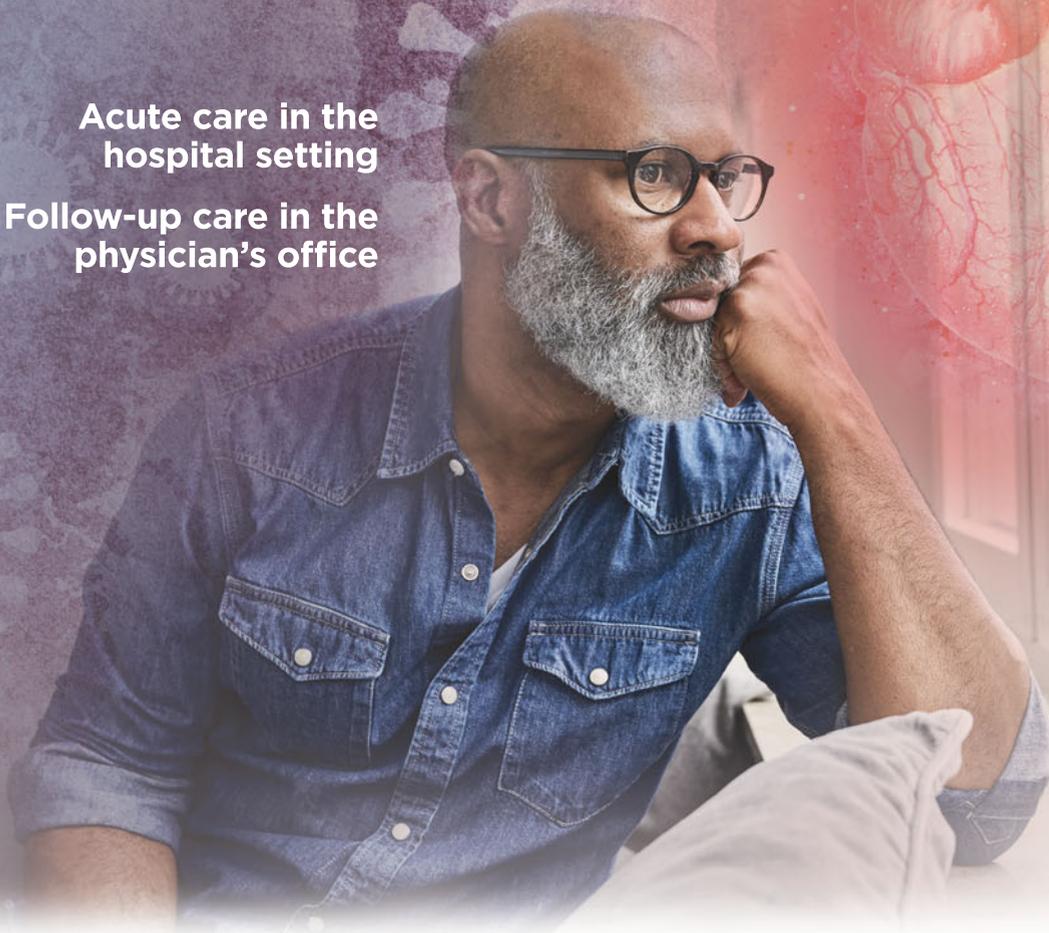
An employer can require or mandate a vaccine as a term and condition of employment.¹² However, they must be aware of possible exemptions from this policy where federal or state law provide for an employee’s ADA disability or sincerely held religious belief, practice, or observance. In the case of denying a requested religious exemption, the employer should be prepared to explain why providing a reasonable accommodation would pose an undue hardship. ■

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A 69-Year-Old Female with Hypertension, Dyslipidemia, and a Constellation of Otolaryngologic Symptoms

Urgent message: Epiglottitis is classically viewed as a pediatric disease, but has become increasingly common in the adult population. While symptoms may present as an isolated sore throat, they can quickly progress to complete airway compromise with need for emergency cricothyroidotomy. Due to the high risk for morbidity and mortality, urgent care providers must maintain a high index of suspicion to avoid misdiagnosing a potentially catastrophic disease.

ZACHARY DEPRIEST, MS, PA-C

Introduction

Adult epiglottitis (AE) is a potentially life-threatening condition. While historically thought to be a disease of childhood, advent of the *Haemophilus influenzae* B (HiB) vaccine in the 1980s has reduced mortality to 7% (consequently increasing relative incidence among adults).¹

Case Presentation

A 69-year-old female with a history of hypertension and dyslipidemia presented with a 3-day history of increasing pharyngitis, odynophagia, mild shortness of breath, subjective fever, and progressive hoarseness. She denied any drooling or inability to handle secretions, although she did note that her discomfort was greatest on the right side of her throat.

On exam, the patient was febrile at 38°C but the rest of her vital signs were normal aside from a mild tachycardia at 106 bpm. Blood pressure was 130/78 mmHg, respiratory rate of 18 breaths/minute, and oxygen saturation of 98% on room air.

She was noted to be moderately hoarse but handling secretions without difficulty or stridor. The posterior oropharynx was mildly erythematous but without edema, exudate, or asymmetry. There was bilateral sub-



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mandibular and anterior cervical lymphadenopathy most pronounced on the right. Heart rate was regular with normal heart tones and breath sounds were clear with good aeration. She had normal mentation.

Zachary DePriest, MS, PA-C is Director of Education and Staff Development, Alteon Health Midwest. The author has no relevant financial relationships with any commercial interests.



Figure 1.

Diagnostics

Due to the progressive hoarseness with relatively normal physical exam findings, consideration was given to deep space infection and the patient was sent for a lateral soft tissue neck x-ray. This demonstrated diffuse supraglottic edema and a prominent epiglottis for which the radiologist recommended CT soft tissue neck with IV contrast (Figure 1).

Course and Treatment

The facility this patient presented to was a standalone urgent care center (UCC) with laboratory, ultrasound, and x-ray capability. There was no CT scanner on site. It was recommended to transport the patient via EMS with an Advanced Life Support (ALS) crew capable of managing the patient’s airway if it became compromised. The patient refused transport, insisting upon driving herself to the ED. She was given 10 mg PO dexamethasone prior to discharge. The patient arrived in the ED a short time later, where she underwent additional workup that revealed a leukocytosis of 18,000 with normal renal function and electrolytes. She was given IV fluids and 1 g ceftriaxone while her airway was monitored. Contrast-enhanced CT of the neck revealed:

1. Markedly edematous and irregularly enhancing soft tissues of the epiglottis and right pharyngeal wall extending into the true vocal cords. A moderate degree of fat stranding was appreciated, suggesting epiglottitis; however, malignancy cannot be excluded.
2. Moderate glottic airway narrowing.

The patient underwent nasopharyngoscopy in the ED by the ENT specialist, revealing an inflamed and edematous epiglottis consistent with epiglottitis.

Resolution of Case

The patient was admitted to the ICU for airway monitoring and continued dexamethasone and ceftriaxone. The next day she noted significant improvement in her discomfort with improved phonation. Repeat nasopharyngoscopy the following day revealed nearly resolved epiglottic edema and the patient was discharged on day 5 to finish a 14-day course of amoxicillin clavulanate.

Discussion

Sore throat is a common complaint in the urgent care setting in both the adult and pediatric populations, accounting for over 11% of visits overall.² The vast majority of cases are viral in etiology (40%-60%) due to rhinoviruses, influenza A and B, parainfluenza viruses,

Differential Diagnosis

- Group A beta-hemolytic streptococcal pharyngitis (GABHS)
- Viral pharyngitis
- Laryngitis
- Peritonsillar abscess
- Epiglottitis
- Retropharyngeal abscess
- Ludwig’s angina
- Lemierre’s syndrome

Epstein-Barr virus (infectious mononucleosis), and adenovirus. These require only supportive management.³ GABHS pharyngitis accounts for only 5%-15% of all adult cases of pharyngitis and 15% to 36% in children but has significant nonsuppurative (rheumatic fever, glomerulonephritis) and suppurative complications (peritonsillar abscess).⁴ Other less-frequent bacterial etiologies include Group C and D strep, *Fusobacterium necrophorum* (Lemierre's syndrome), *Mycoplasma pneumoniae*, *Neisseria gonorrhoea*, and *Corynebacterium diphtheriae* (diphtheria).⁵

Epiglottitis is an acute inflammation of the epiglottis and supraglottic structures that can lead to acute airway obstruction. *Haemophilus influenzae* used to be the most common pathogen prior to the Hib vaccine but it is now increasingly caused by *Streptococcus pneumoniae*, *Staphylococcus aureus*, and GABH.^{6,7} Due to immunization, epiglottitis has decreased in the pediatric population and is now increasingly seen in adults, most notably between the ages of 45 and 64.⁸ Prior to the 1980s, the child:adult ratio of epiglottitis was 2.6:1. By the mid 1990s, that ratio had reversed to 0.4:1 (child:adult).⁹ Consider the "3 Ds" in the pediatric population:

1. Drooling
2. Dysphagia
3. Distress

Adults with epiglottitis, however, tend to present with more subacute and insidious complaints that include pharyngitis,odynophagia, and fever.¹⁰ Red flags to always evaluate for are changes in phonation (hoarseness or muffled voice), stridor, tripod position, and inability to handle secretions. Toxic or super-heated inhalations such as with crack cocaine use can also cause noninfectious epiglottitis. The clinician should consider imaging in any patient who appears ill but has an unremarkable oropharynx or with voice changes such as hoarseness or a "hot potato voice." Lateral soft tissue neck x-ray carries a 90% sensitivity with the classic finding being a "thumbprint" sign indicative of an edematous epiglottis. The ratio of the width of the epiglottis to the anteroposterior width of C4 should not exceed 0.33 (sensitivity 96%, specificity 100%).^{11,12} Surprisingly, there is no described sensitivity or specificity in the literature for CT neck with IV contrast.¹³ This modality is primarily used to differentiate other suppurative conditions such as PTA or on equivocal plain films.¹⁴ One must use CT with caution, however, as it typically involves significant time in the radiology department away from definitive airway management. The gold standard of diagnosis is direct laryngoscopy.

Airway management is the main priority. Supplemental oxygen should be applied with difficult airway cart, fiber optic bronchoscopy, and cricothyrotomy kit at the bedside. Broad-spectrum antibiotics are indicated in the form of a third-generation cephalosporin such as ceftriaxone 2g IV daily or ampicillin/sulbactam 3 g q6h. Vancomycin 15 mg/kg should be added q12h in the critically ill patient or if there is clinical concern for MRSA infection. Corticosteroids such as dexamethasone 10 mg IV are frequently used; however, their efficacy is somewhat controversial.¹⁵

All patients with epiglottitis need to be admitted with continuous airway monitoring, preferably in an ICU setting.

Summary

- Epiglottitis is increasingly seen in the adult population due to advent of the Hib vaccine.
- Beware of voice changes; it is reasonable to obtain imaging studies in a patient who reports a change in phonation or in whom you notice a muffled voice.
- Epiglottitis is a true airway emergency.
- Stridor in a patient with epiglottitis is indicative of impending airway collapse and need for immediate intubation or cricothyrotomy.
- Any patient in whom you suspect epiglottitis needs to be emergently transported to a facility where definitive airway management can be accomplished by an ENT, anesthesia, or a surgical specialist. ■

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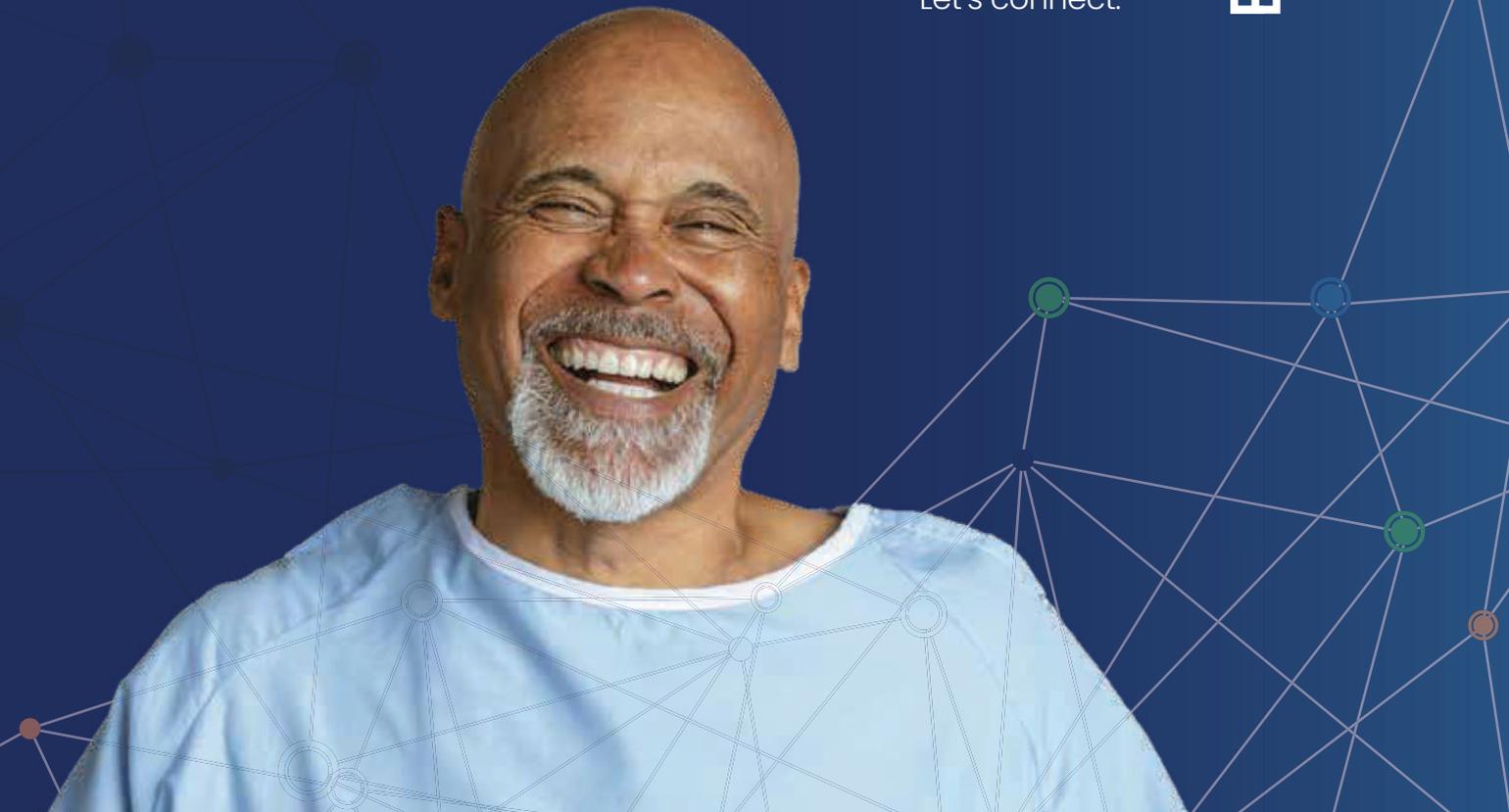
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ABSTRACTS IN URGENT CARE

- Antibiotics (or Not?) for Dog Bites
- Scaring the Quest for Antibiotics Out of Patients
- Post-Op Antibiotics in Complex Appendicitis
- How Long Should Sepsis Patients Receive Antibiotics?
- Times Are Changing for Patients with Allergic Rhinitis

■ AVIJIT BARAI, MBBS, MRCS, MSc (CRITICAL CARE), PgCertCPU, FRNZCUC

Prophylactic Antibiotics for Dog Bites

- **Key point:** The majority of the patients presenting to emergency rooms with dog bites receive prophylactic antibiotics either in the hospital or on discharge. About one quarter of the patients who were given prophylactic antibiotics did not meet the high-risk criteria.
- **Citation:** Baxter M, Denny KJ, Keijzers G. Antibiotic prescribing in patients who presented to the emergency department with dog bites: A descriptive review of current practice. *Emerg Med Australas.* 2020;32(4):578-585.
- **Relevance:** Concerns regarding overuse of antibiotics prompt examination of current practices, such as prophylactic use in dog bites.
- **Study summary:** This was a retrospective descriptive cohort study conducted in Queensland, Australia in two different emergency departments over a 1-year period. All patients who presented to the ED with dog bites during the study period were included.

A total of 336 patients were included in the study for analysis, out of which 23 had documented infections. Among the patients who were discharged from the ED, the majority (87%) received prophylactic antibiotics even though more than a quarter of them (28%) did not meet high-risk criteria for antibiotics as outlined in existing guidelines.

- **Limitations:** This retrospective study has several limitations. Important information such as high-risk features of dog bites were not available for some patients. It was not clear how the authors addressed the issue in their analysis. The generalizability of the study findings and its applicability to clinical practice may be limited due to the fact that it was conducted in only two centers in Australia. ■



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“Fear-Based” Messaging to Reduce Antibiotics Use

- **Key point:** A public health campaign of fear-based messaging regarding antibiotic resistance among the general public reduced requests for antibiotics for viral illnesses. However, this strategy may work better if the public is empowered with education on the self-management of symptoms.
- **Citation:** Roope LSJ, Tonkin-Crine S, Herd N, et al. Reducing expectations for antibiotics in primary care: a randomised experiment to test the response to fear-based messages about antimicrobial resistance. *BMC Med.* 2020;18(1):110.
- **Relevance:** The general public has varying levels of medical literacy. The study focuses on a strategy that can be utilized to reduce inappropriate requests for antibiotics.
- **Study summary:** This randomized, online 2016 survey in the UK divided 4,000 participating adults into three groups: fear-based message alone (n=1,000); mild fear-based message with empowerment (n=1,500); and severe fear-based message with empowerment (n=1,500). The findings were independently validated with an online survey of another 4,000 UK adults a year later.

The findings were similar between both sets of survey respondents. The researchers found that 46.9% of adults who received strong fear-based messaging with empowerment for the self-management of symptoms of influenza-like illness said they were “much less likely/less likely” to request antibiotics from their primary care physicians, compared with 34.5% who received mild-fear-plus-empowerment messaging and 29.8% who received fear-alone messaging.

- **Limitations:** The study examined the hypothetical behavior of the general public. Further studies are required to explore the applicability of this strategy in actual patient behavior rather than the hypothetical behavior.

Generalizability of these findings outside of the UK is also uncertain. ■

Postoperative Antibiotics in Complex Appendicitis

- **Key point:** There is no clear evidence in favor of the optimal duration of antibiotics postoperatively in the complex appendicitis patients.
- **Citation:** van den Boom AL, de Wijkerslooth EM, Wijnhoven BP. Systematic review and meta-analysis of postoperative antibiotics for patients with a complex appendicitis. *Dig Surg.* 2020;37(2):101-110.
- **Relevance:** Patients with complex appendicitis are typically managed with antibiotics. However, there is a paucity of evidence for the optimal duration of the antibiotics use.
- **Study summary:** This is a systematic review and meta-analysis which screened 1,614 studies published before 2018 including randomized controlled trials (RCT), observational studies, and case series, which specifically recorded the duration of antibiotics prescribed postoperatively in complex appendicitis. Complex appendicitis was defined as gangrenous appendicitis or perforation. The primary outcome measure was intra-abdominal abscess (IAA) formation.

Following a rigorous inclusion and exclusion criteria, nine studies were included for qualitative analysis, reflecting 2,006 patients. A total of four studies were included for quantitative data analysis. The study revealed there was a statistically significant difference in patient outcomes between the duration of ≤ 5 and > 5 days of antibiotic use (risk ratio 0.36 [95% CI 0.23-0.57]; $p < 0.0001$), with intra-abdominal abscesses being more common in ≤ 5 days group. However, there was no statistically significant differences between the duration of ≤ 3 and > 3 days of antibiotics use ($p = 0.59$).

- **Limitations:** All nine studies included are categorized as “low” or “very low” based on the Grades of Recommendations, Assessment, Development and Evaluation (GRADE) tool which may have reduced the applicability of the study findings to clinical practice. Moreover, the authors of this systematic review are based in the Netherlands where antibiotics > 5 days is usually not given; this is likely to have affected their analysis in the article. ■

Is There an Optimal Time to Give Antibiotics in Sepsis?

- **Key point:** There was an association between the time to antibiotic administration and mortality in patients with septic shock. However, there was no association between the time to antibiotics and mortality in patients with sepsis who were not in shock in this study.
- **Citation:** Weinberger J, Rhee C, Klompas M. A critical analysis of the literature on time-to-antibiotics in suspected sepsis. *J Infect Dis.* 2020;21;222(Suppl 2):S110-118.
- **Relevance:** The Surviving Sepsis campaign has compelled

the administration of antibiotics within an hour of presentation in patients with suspected sepsis. However, the practical application of these guidelines in clinical practice is challenging. Up to 40% of the patients who are admitted to the intensive care unit with an initial diagnosis of sepsis are found to have a low probability of sepsis. The initial aggressive and indiscriminate use of antibiotics in such patients in urgent care centers and EDs may result in more antibiotic-associated complications than are justified if there is no benefit.

- **Study summary:** This is a critical analysis of the contemporary literature examining the optimal timing of antibiotics in sepsis and its association with mortality. Both randomized controlled trials and observational studies were included. The authors found that the contemporary literature supports the early use (< 5 hours) of antibiotics in patients with septic shock, which reduces the mortality in such patients. However, there is no evidence to suggest that the early use of antibiotics in the patients without septic shock is beneficial.
- **Limitations:** This is a critical analysis, not a systematic review or meta-analysis. The authors do not discuss the methodological aspects of inclusion criteria and literature search. ■

Changing Trends of Allergens and Allergic Rhinitis

- **Key point:** Rapid changes in both environmental factors and lifestyles over the last 20 years have affected patients suffering allergic rhinitis.
- **Citation:** Kim JH, Kim SA, Ku JY, et al. Comparison of allergens and symptoms in patients with allergic rhinitis between 1990s and 2010s. *Allergy Asthma Clin Immunol.* 2020;16(1):1-7.
- **Relevance:** The effects of environmental and lifestyle factors on allergic rhinitis are well known. These have changed considerably in Korea over the past 20 years. The study may reflect the implications of such changes on disease manifestation of allergic rhinitis.
- **Study summary:** This was an observational study conducted in a tertiary care center in Korea in the 1990s ($n = 1,447$) and 2010s ($n = 3,388$). The study examined the association between allergens and allergic rhinitis in these two patient groups. Allergic rhinitis was confirmed by the skin prick test in these patients. The study revealed that the rate of sensitization to house dust mites, cockroaches, *Aspergillus*, *Alternaria*, and tree pollen increased significantly ($p < 0.05$). This implies that rapid environmental changes have some implications for the allergic rhinitis patient groups.
- **Limitations:** This was a single-center observational study conducted in Korea. The generalizability of the study findings to other countries is unclear. ■

Antibiotic Stewardship in Pediatric Acute Otitis Media— Pearls and Pitfalls

Urgent message: Acute otitis media (AOM) is the leading diagnosis for antibiotic prescribing in pediatric patients. As antibiotic stewardship becomes more essential in preventing antibiotic resistance, safe and effective management of AOM becomes all the more important in urgent care. The treatment path should reflect nuances in management to inform decisions regarding the necessity of antibiotics—and if they are deemed necessary, targeting the type, delivery vehicle, and duration to keep a narrow treatment effect.

KATHRYN DORAN, DO, FAAP

When should I suggest ‘watchful waiting’?

Consider watchful waiting, rather than immediate antibiotic treatment, for patients older than 6 months of age with unilateral AOM, mild otalgia, and temperature less than 39°C *or* for children older than 2 years of age with unilateral or bilateral AOM without otorrhea and only mild symptoms.¹ High fever, severe pain, ill appearance, or symptom duration greater than 48 hours are generally situations in which watchful waiting is not recommended, regardless of age. Patients who meet criteria for watchful waiting can be discharged without antibiotics if they have adequate follow-up should symptoms worsen. An alternative option is to offer the family a safety net antibiotic prescription and instruct the family to fill the prescription in 2-3 days only if the child does not improve.¹

What antibiotics should I consider for uncomplicated AOM?

The first-line therapy for routine AOM is typically amoxicillin (80-95 mg/kg/day divided bid). The duration of therapy in children less than 2 years of age should be 10 days, while shorter courses can be considered in older children. The clinician should consider alternate initial therapy if the patient has high risk of *S pneumoniae* resist-



ance, a recent episode of AOM (within 30 days), a penicillin allergy, or concomitant bacterial conjunctivitis.¹

Kathryn Doran, DO, FAAP is a Clinical Assistant Professor in the Division of Urgent Care at Children's Mercy Kansas City.

Symptom	Acute Otitis Media with Perforation	Acute Otitis Externa
Fever	+	-
Signs of significant sinus disease	+	-
Ill-appearing	+	-
Tenderness on pinna manipulation	-	+
Tenderness on otoscopic exam	-	+
Pain radiating to jaw	-	+

When should I consider treatment failure, and what are my options?

Clinical improvement of AOM is expected within 2-3 days. If the patient is not improving in this timeframe, the clinician should consider changing to a secondary antibiotic. It is difficult to consider antibiotic *failure* until the patient has received at least four or five doses of an appropriately dosed twice-daily oral antibiotic (eg, amoxicillin, amoxicillin-clavulanate) or two or three doses of an appropriately dosed once-daily oral antibiotic (eg, azithromycin, cefdinir).

Secondary antibiotic regimens include amoxicillin-clavulanate or cefdinir. Tertiary antibiotic regimens could include either intramuscular ceftriaxone or combination oral therapy with clindamycin and a third-generation cephalosporin.¹ For patients with inability to tolerate oral antibiotics or with perceived antibiotic failure, intramuscular ceftriaxone (50 mg/kg q 24 hours for 2-3 days) is preferred. If the patient's AOM does not resolve with intramuscular ceftriaxone, referral to otolaryngology is recommended to consider tympanocentesis or myringotomy to identify the causative organism.¹

How should I respond to the question, Does my child need tympanostomy tubes (TTs)?

For most children, tympanostomy tubes are generally considered in the first 3 years of life when frequent upper respiratory infections lead to recurrent AOM. The definition of recurrent AOM is ≥3 episodes in 6 months, or ≥4 in 12 months with the most recent episode in the preceding 6 months.² It is therefore important to make an accurate diagnosis of AOM since recurrent episodes may lead to surgical therapy. Recurrent AOM in older children is similarly caused by eustachian tube dysfunction but more often requires adenoidectomy in addition

to TT placement. If a child presents with recurrent AOM, providers can discuss the possibility of tympanostomy tubes with families and advise them to speak to their primary care provider about a possible otolaryngology referral. In order to preserve patients' relationships with the medical home, urgent care providers should only refer children directly to an otolaryngologist in unusual circumstances.²

If a patient has patent TTs, how does the treatment of AOM differ?

Patients with patent tympanostomy tubes may routinely have otorrhea as a sign of middle ear disease, often without pain or fever, especially in the setting of an upper respiratory infection. Acute otorrhea resolves on its own without treatment in half of patients, especially if the tubes are widely patent; however, it is generally recommended to treat acute otorrhea with topical antibiotics with or without steroids.

Special attention should be made to choose ear drops safe for use with a patent middle ear. Fluoroquinolones are the only FDA-approved topical therapies for children with a non-intact TM. Aminoglycoside (gentamicin) and polymyxin drops are considered ototoxic and are contraindicated.³ Topical steroids may improve the efficacy of the antibiotic but are often more expensive and make the drops more viscous and leave residue in the ear canal. Addition of an oral antibiotic is generally not indicated for acute otorrhea but should be considered if the patient has a high fever, ill appearance, severe ear pain, is immunocompromised, or has significant concurrent illness (eg, sinusitis, pneumonia, etc.).

Using oral antibiotics does not discount the need for topical therapy. Compared with oral amoxicillin-clavulanate, topical fluoroquinolones have better coverage against *P aeruginosa*, which is a common pathogen in older children with TTs and otorrhea.⁴

If topical antibiotics are required for more than 7 days, consider initiating an oral antibiotic or refer to the patient's otolaryngologist. Children with patent TTs should avoid getting water in their ears while being treated for otorrhea and should not use over-the-counter eardrops that are unsafe for middle ear patency.⁴

What if I can't tell if the TTs are patent and intact?

Most children have short-term (grommet) tubes which typically last about 12 months (range of 4-18 months). Some children with craniofacial abnormalities receive long-term (T-tubes) that have anchors to stay in longer than 15 months.⁴ Grommet tubes are unlikely to still be

functional after 12-18 months, so incomplete visualization in this age group should be assumed to have non-functional or extruded TTs.

How do I differentiate perforated AOM from acute otitis externa (AOE)?

Since both conditions may present with otorrhea and otalgia, it can be difficult to distinguish these diagnoses on examination without being able to visualize the TM. Generally, AOE is not associated with fever, and children with AOE do not appear ill.³ Patients with AOE may have severe pain with positioning of the pinna to insert the ear speculum, as well as exquisite tenderness when the ear speculum is inserted into the ear canal. Patients with AOM with perforation in contrast generally do not have severe ear canal sensitivity or pain with manipulation of the pinna. Making an accurate diagnosis is important because the treatment paths are different for AOE and AOM with perforation. AOE is treated with topical antibiotics (with or without corticosteroids) alone, whereas AOM with perforation should be treated with oral antibiotics (with or without topical therapy).

Pitfalls

Don't miss mastoiditis

Mastoiditis is the most common complication of AOM. Mastoiditis with osteitis/periosteal abscess typically needs surgical intervention. Signs and symptoms of mastoiditis include swelling and erythema around the ear, mastoid bone tenderness, loss of the postauricular crease, and anterior and inferior displacement of the pinna.² Patients are often ill-appearing, and this needs to be distinguished from a periauricular cellulitis. It is helpful to examine the postauricular area and external ear, especially when the patient is febrile or has recurrent or chronic AOM.²

Don't assume penicillin allergy requires alternate therapy

Patients frequently report penicillin allergy, forcing some clinicians to use macrolide therapy as an alternative. Macrolide therapy (eg, azithromycin), however, is often inadequate AOM treatment because of poor efficacy against *S pneumoniae* and *H influenzae*. Similarly, *S pneumoniae* has shown increasing resistance to trimethoprim-sulfamethoxazole (TMP-SMX).¹ It's important to ask more questions when patients report penicillin allergy. As many as 90% of patients who self-report a penicillin allergy do not exhibit IgE-mediated sensitization to penicillin.⁵ In the absence of acute allergic reaction characterized by urticaria or signs of anaphylaxis,

third-generation cephalosporins carry a negligible risk of cross-allergy⁶ and should be considered.

“Obstacles in the management of acute otitis media, a common diagnosis in urgent care, can range from treatment failure to questions about tympanostomy tubes.”

Don't forget to address pain control

Whether prescribing antibiotics or not, it's important to address analgesia with the use of NSAIDs adequately dosed for a child's weight. Families often ask if there are any eardrops to help with the pain and, unfortunately, topical analgesics do not add significant benefit. For this reason, in 2015 the FDA *un*approved otic drops marketed as analgesics containing benzocaine, antipyrine, and pramoxine. Other natural treatments of pain, like topical application of heat or cold to the ear or using oils in the ear, are not well studied and have limited effectiveness. Using oils or drops not prescribed by a provider can be dangerous in the setting of a perforated tympanic membrane.

Summary

AOM is a common diagnosis in urgent care, and appropriate management can come with many obstacles ranging from treatment failure to questions about tympanostomy tubes. The pearls and pitfalls addressed in this article can aid in the evaluation and management of AOM and complications, to arm clinicians with strategies to improve antibiotic stewardship in AOM treatment. Recommended additional resources include American Academy of Pediatrics clinical practice guidelines on the diagnosis and management of acute otitis media and the American Academy of Otolaryngology–Head and Neck Surgery's clinical practice guideline on tympanostomy tubes in children. ■

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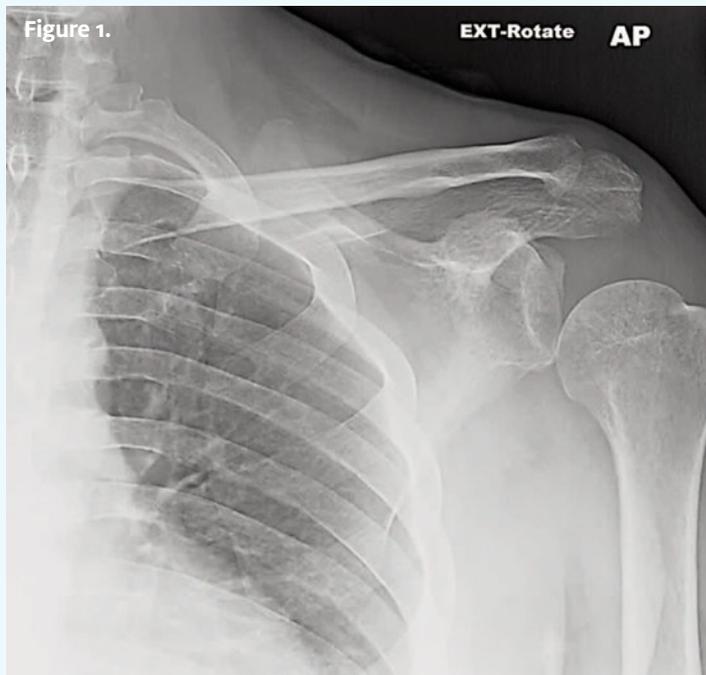
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A 35-Year-Old Man with Shoulder Pain Weeks After a Car Accident

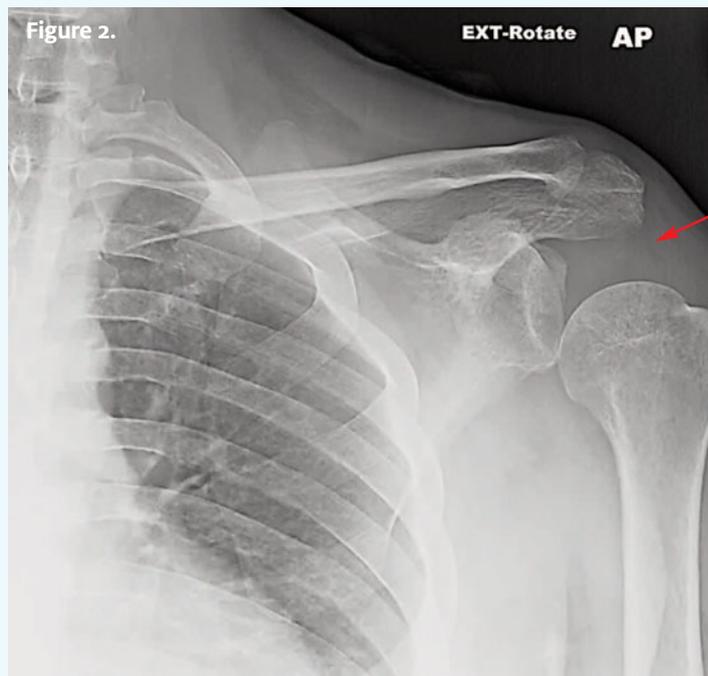


Case

The patient is a 35-year-old male who presents with shoulder pain and weakness. He reports that the pain began when he had a “fender bender” 3 weeks ago. At the time, he didn’t think the pain was severe enough to warrant attention but he’s concerned that it’s “taking too long to get over this.”

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

THE RESOLUTION

**Differential Diagnosis**

- Bicipital tendonitis
- Clavicle fracture
- Inferior subluxation of the shoulder
- Labrum tear

Diagnosis

This patient suffered an inferior subluxation of the shoulder—a partial dislocation of the glenohumeral joint or translation between the humeral head and the glenoid fossa while the humeral head is in contact with the glenoid fossa. This injury is uncommon compared with anterior and posterior dislocations. It usually is transient following trauma, but could be permanent. The subluxation is secondary to the muscle fatigue or neurogenic etiology with muscle weakness.

Learnings/What to Look for

- Subluxation typically develops over a few weeks following trauma and becomes apparent as pain and swelling in the region subsides and atrophy and weakness of the shoulder girdle muscles become clinically apparent

- Clinical findings include an inferiorly displaced humeral head, increased gap between the acromion process and humeral head, and atrophy of the shoulder muscles
- Radiographic findings include inferior displacement of the humeral head from the glenoid fossa without a frank dislocation, increased distance between the acromion process under surface and the humeral head, muscle atrophy, and a fracture in shoulder girdle region

Pearls for Urgent Care Management and Considerations for Transfer

- Treatment is usually conservative, with immobilization (application of an elbow sling for 3 weeks) followed by physical therapy
- In patients with the humeral fracture, immobilization for 6 weeks is needed
- Recovery usually occurs over 3 to 8 weeks and takes longer in patients with neurological injury

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



A 33-Year-Old Woman with Blanching on Her Lower Legs

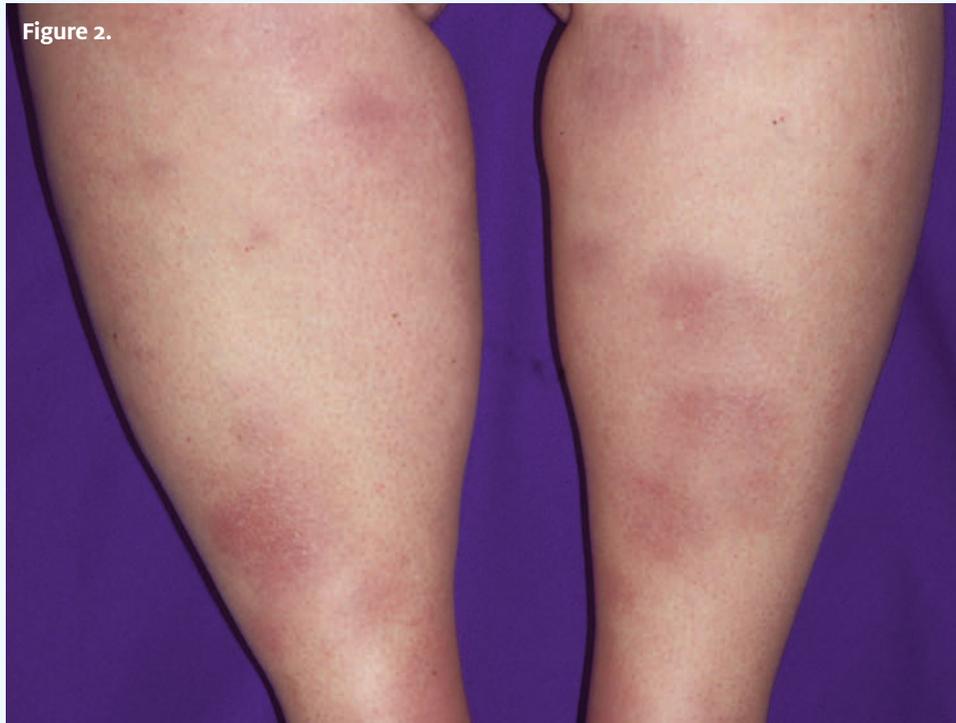


Case

A 33-year-old woman presents to urgent care with symmetrical multiple blanching nodules that developed on her lower legs over the course of 2 weeks. The lesions were round and tender. She had also been fighting a fever, fatigue, and joint pain over the same period. Her only current prescription was for oral contraceptives.

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

THE RESOLUTION

**Differential Diagnosis**

- Cellulitis
- Erysipelas
- Erythema multiforme
- Erythema nodosum

Diagnosis

This patient was diagnosed with erythema nodosum (EN), the most common type of inflammatory panniculitis (inflammation of the fat). This is an inflammatory process, typically symmetrical, and located on the pretibial region. It represents a form of hypersensitivity reaction precipitated by infection, pregnancy, medications, connective tissue disease, or malignancy; often, however, a trigger is never found.

Learnings/What to Look for

- Eruptions typically persist for 3-6 weeks and spontaneously regress without scarring or atrophy
- Recurrences are sometimes seen, especially with recurrence of the precipitating factors
- Arthralgias are reported by a majority of patients, regardless of the etiology of EN
- Upper respiratory tract infection or flu-like symptoms may precede or accompany the development of the eruption
- EN can occur at any age, but most cases occur between the ages of 20 and 45, particularly in women

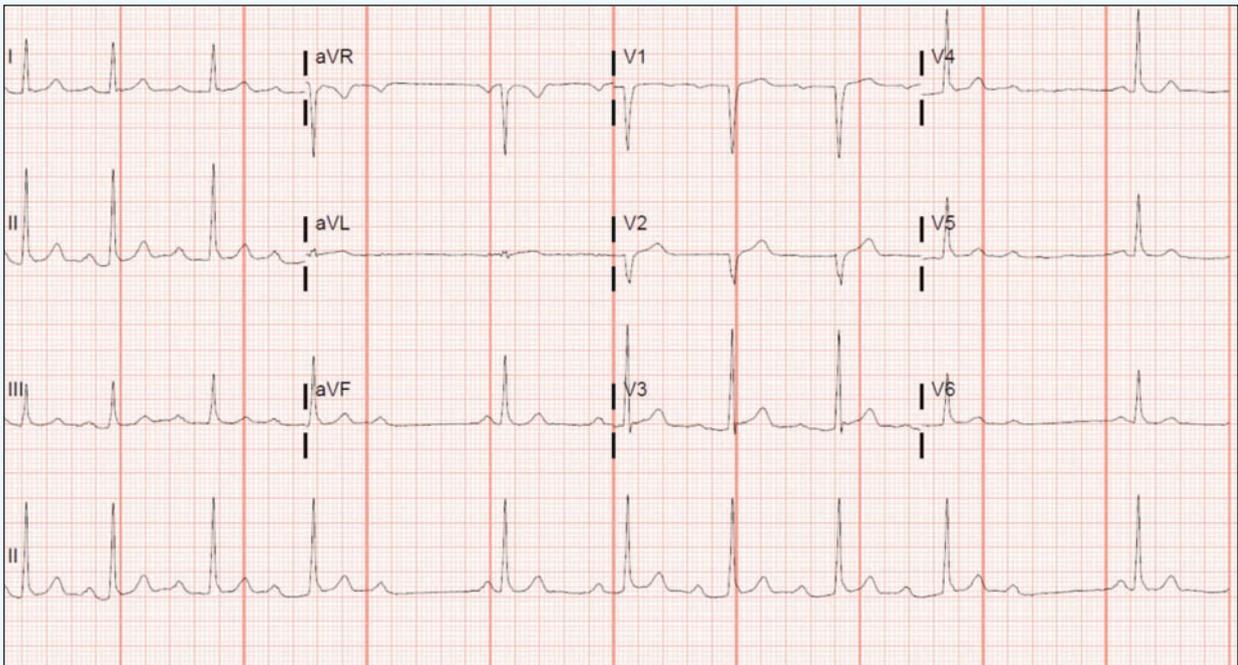
Pearls for Urgent Care Management and Indications for Transfer

- EN is self-limited, though antibiotics may be indicated to treat underlying infection
- If the nodules are painful, nonsteroidal anti-inflammatory medications may also be helpful

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



A 46-Year-Old Man with ‘Burning’ Epigastric Pain of Several Hours Duration



Case

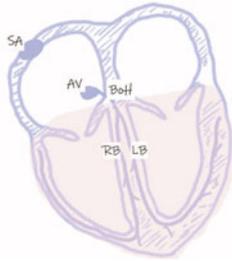
The patient is a 46-year-old male who presents with epigastric pain that started several hours ago after a large meal. He describes the pain as a “burning” sensation. His personal medical history is notable for seizures.

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

(Case presented by Benjamin Cooper, MD, FACEP, The University of Texas Health Science Center at Houston.)

THE RESOLUTION

Figure 1.



1st deg HB
 2nd deg HB - Mobitz I

 2nd deg HB - Mobitz II
 3rd deg HB (CHB)

Conduction defects above the pink line are typically the result of delayed or intermittent conduction through the atrioventricular node; those below the pink line are the result of conduction disease below the atrioventricular node and carry a worse prognosis. (SA, sinoatrial node; AV, atrioventricular node; BoH, bundle of His; LB, left bundle; RB, right bundle; HB, heart block; CHB, complete heart block)

Differential Diagnosis

- First-degree atrioventricular block
- Left bundle branch block
- Normal sinus rhythm
- Second-degree atrioventricular block, Mobitz type I (Wenckebach)
- Second-degree atrioventricular block, Mobitz type II

Diagnosis

The ECG reveals a second-degree atrioventricular block, Mobitz type I (Wenckebach).

ECG Analysis

This ECG shows a ventricular rate of 60 BPM, but careful examination reveals an atrial rate of 72 BPM. The presence of more p waves than QRS complexes should prompt consideration of an atrioventricular block. In this case, p waves precede most QRS complexes, but the PR interval progressively prolongs until a QRS complex is “dropped.”

Atrioventricular conduction block refers to a set of disturbances in which conduction from the atria to the ventricles is delayed, intermittently blocked, or completely blocked—classified as first-degree, second-degree, or third-degree block, respectively.¹ Identifying the type of block has important prognostic implications (Figure 1).

First-degree atrioventricular block

First-degree atrioventricular block is represented by prolongation of the atrioventricular conduction time (PR interval) beyond 0.2 s, while every atrial impulse is conducted to the ventricle. First-degree block usually suggests delayed conduction through the atrioventricular node, and is generally considered to be a benign phenomenon when not associated with other conduction deficits (ie, right bundle branch block with a concomitant left anterior or posterior fascicular block, a so-called “bifascicular block”).^{1,2}

Third-degree atrioventricular block

Third-degree atrioventricular block occurs when there is complete atrioventricular dissociation (ie, failure of conduction between the atria and the ventricles). In third-degree block, the level of escape rhythm determines not only the heart rate, but also the reliability of the rhythm. For example, when the atrioventricular node is diseased and fails to conduct, a junctional escape rhythm (at the level of the bundle of His) emerges, usually producing a more reliable rate between 40 and 60 BPM. However, when infra-Hisian conduction disease exists (ie, below the bundle of His), the escape rhythms are ventricular in origin and tend to be slower and less reliable.³ Patients with third-degree block should be immediately referred to an emergency department.

Second-degree atrioventricular block, Mobitz type I

Second-degree atrioventricular block occurs when there is intermittent atrioventricular conduction and can represent conduction deficits at the level of the atrioventricular node or at the infra-Hisian level. Electrocardiographically, it is characterized by a progressively prolonging PR interval until conduction from the atria to the ventricle fails (Figure 2). Second-degree Mobitz type I blocks are often asymptomatic and seen in active, healthy patients without heart disease—and usually represents disease within the atrioventricular node itself, which is unlikely to progress to complete heart block.³ Immediate referral to an emergency department is not necessary in patients with second-degree Mobitz type I block not accompanied by bundle branch block or symptoms to suggest bradycardia (eg, syncope or presyncopal lightheadedness). However, Mobitz type I block can in-

Figure 2.



Dashes represent the progressively prolonging PR interval until a ventricular beat is “dropped” (asterisk), characteristic of second degree atrioventricular block, Mobitz type I.

THE RESOLUTION

Figure 3.



Second-degree atrioventricular block, Mobitz type II. Dashes represent a constant PR interval; a ventricular beat is "dropped" (asterisk), characteristic Image adapted with permission from ddxof.com.

dicating infra-Hisian conduction disease when accompanied by preexisting conduction disease (eg, right bundle branch block, left bundle branch block, or bifascicular block). Immediate referral to an ED is warranted when patients present with symptoms suggesting intermittent bradycardia.

Second-degree atrioventricular block, Mobitz type II

Second-degree atrioventricular block, Mobitz type II almost always occurs when there is infra-Hisian conduction disease and is characterized electrocardiographically by a constant PR interval with dropped beats (**Figure 3**). Patients with this rhythm should be immediately referred to the ED for consideration of a permanent pacemaker, since this conduction deficit is likely to progress to complete heart block.³

Learnings/What to Look for:

- The presence of more p waves than QRS complexes should prompt consideration of an atrioventricular block
- The recognition between Mobitz I and II is important, as there are prognostic implications
- First-degree atrioventricular block and second-degree Mobitz type I block generally represent delayed conduction through the atrioventricular node and are not likely to progress to complete heart block
- Second-degree Mobitz type II block and third-degree block (ie, complete heart block) represent infra-Hisian conduction disease and warrant emergent consideration

Pearls for initial management and considerations for transfer:

- Patients with atrioventricular blocks thought to represent infra-Hisian disease should be immediately referred to an ED
- Patients with atrioventricular blocks thought to represent atrioventricular nodal conduction delay do not need immediate referral to an ED
- In patients with unstable bradycardia secondary to atrioventricular block, consider transcutaneous pacing and immediate referral to the emergency department

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Looking Forward to 2021

■ MONTE SANDLER

2020 has been a rough year for all of us, and everybody is eagerly awaiting 2021. One thing for urgent care providers to look forward to is simplified documentation standards for evaluation and management guidelines. Current documentation guidelines are over 20 years old. A lot has changed in that time, most importantly the adoption of electronic medical records (EMR). Thus, outdated expectations have created “note bloat,” unnecessary work, and contributed to provider burn out.

The first major change that should save providers the most time is that only a “medically appropriate” history and/or examination is required. These two formerly “key” elements have no impact on the level of care. While still necessary, the amount of documentation is up to the clinician.

That leaves codes to be selected by either medical decision-making (MDM) or time. These two elements look a lot different than they do today. The documentation requirements are also the same whether the patient is new or established.

Medical Decision-Making

The level will continue to be based on two out of three elements, though the requirements and concepts have changed. The three elements are:

- Number and complexity of problems addressed
- Amount and/or complexity of data to be reviewed and analyzed
- Risk of complications and/or morbidity or mortality of patient management

The second element is where we see the biggest impact. Here doctors will get credit for the clinically important work they are already performing. Data is divided into three categories:

1. Tests, documents, orders, or independent historian(s)
2. Independent interpretation of tests
3. Discussion of management or test interpretation with

external physician/other qualified health professional (QHP)/appropriate source

Each unique test, order, or document contributes to the combination for category 1. Each CPT is a unique test. Credit is given separately for ordering of each unique test and reviewing the results.

Also counted is an assessment requiring an independent historian (eg, from a daughter whose mother has dementia). Providers should take care to document these conversations.

Independent interpretation and discussion of test interpretation would only be counted if the clinic is not also billing for the test (eg, a patient brings in their x-ray from another provider). This would be rare in the urgent care setting.

As for “appropriate source,” these are individuals who are not healthcare professionals but who may be involved in the management of the patient (eg, a workers compensation case manager). Providers have not received credit for this in the past.

A new item for risk is when care is significantly limited by social determinants of health. This could be a patient who is homeless or somebody who cannot afford their medication, for example. The additional complexity for these patients is classified as moderate risk.

Time

Today, levels can be based on time when 50% of the face-to-face time is spent in counseling and coordination of care. That is not the case in 2021.

Time is defined as the total time spent by the “reporting” practitioner on the day of the visit (including face-to-face and non-face-to-face time). This is not limited to the time the patient is physically in the office. Examples of non-face-to-face time include reviewing of tests to prepare to see the patient; ordering medications, tests, and procedures; and documenting the service in the EMR.

Also, the guidelines state that when both a physician and a nonphysician provider see the patient, the total time for both providers should be combined to determine the correct code. Time spent by clinical staff (eg, nurses) and time spent on a procedure should be excluded from the total time calculation.



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

Background on Changes to CPT Evaluation and Management

[Editor's note: The American Medical Association posted a summary of the recent history of changes relating to evaluation and management on the CPT portion of its website. Below is an overview. To view the entire summary, and to access links to other resources, visit <https://www.ama-assn.org/practice-management/cpt/cpt-evaluation-and-management>.]

E/M Office Visit Revisions

The provision to the 2020 Medicare Physician Fee Schedule Final Rule posted on November 1, 2019 includes revisions to the Evaluation and Management (E/M) office visit CPT codes (99201-99215) code descriptors and documentation standards “that directly address the continuing problem of administrative burden for physicians in nearly every specialty, from across the country.” The end result is that “documentation for E/M office visits will now be centered around how physician think and take care of patients and not on mandatory standards that encouraged copy/paste and checking boxes.”

Main Objectives of the CPT Editorial Panel Revisions

- The CPT Editorial Panel outlined four primary objectives:
1. Decrease administrative burden of documentation and coding.
 2. Decrease the need for audit, through the addition and expansion of key definitions and guidelines.
 3. Decrease unnecessary (ie, not needed for patient care) documentation in the medical record.
 4. Ensure that payment for E/M is resource-based and that there is no direct goal for payment redistribution between specialties.

An add-on code will be added for each additional 15 minutes if the visit goes over the time stated in the CPT description for 99205 or 99215. It must be a *complete* 15 minutes to report this code—no rounding up.

Providers should consider documenting time for every visit. When total time gives you a higher level than MDM,

that is what you should report, and vice versa.

As always, documentation should be sufficient for a subsequent provider to treat the patient and a proper legal defense. Make sure you are documenting these new items so you get credit for all the work you are doing. ■



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Turning Back the Tide of Antibiotic Resistance, One (Unfilled) Prescription at a Time

According to JUCM's own chart research, antibiotics are the most-prescribed class of medications in urgent care. This is not surprising, given that six of the top 10 presenting complaints in urgent care encompass possible diagnoses for which an antibiotic could be an appropriate choice.¹

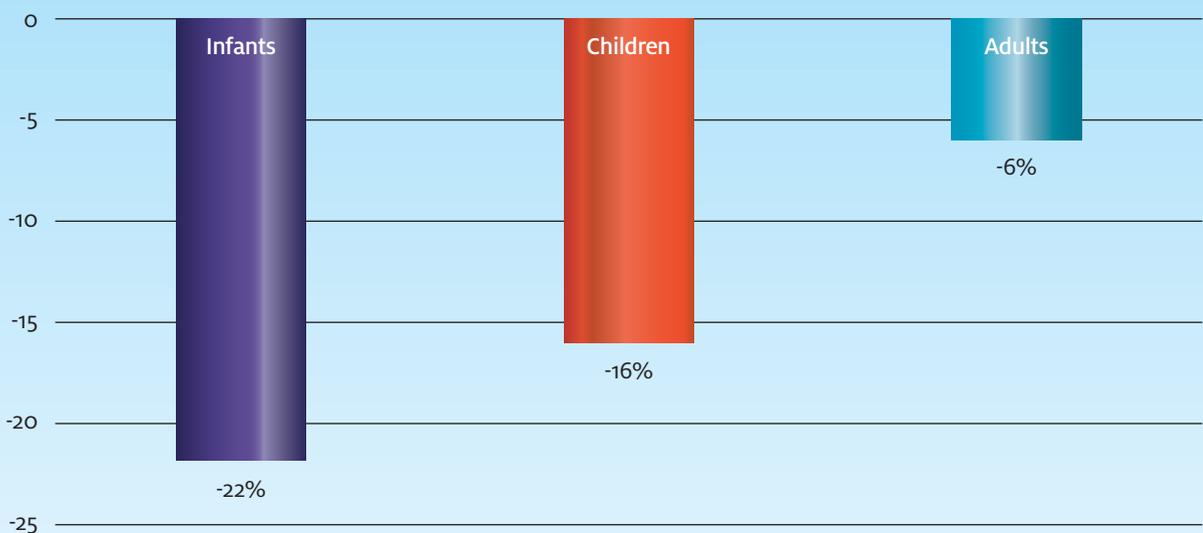
Still, there's no denying that antibiotics have been overprescribed across the board—in retail clinics, emergency rooms, traditional primary care offices, and urgent care. This was clearly validated in a research letter published in 2018 by the *Journal of the American Medical Association*.² And it's why JUCM focused so much of this issue's content on the crucial subject of antibiotic stewardship. The Urgent Care Association and the College of Urgent Care Medicine have answered the call by teaming up with the Centers for Disease Control and Prevention to recognize urgent care operators who demonstrate compliance with certain standards of responsible antibiotic use (ie, the Core Elements of Outpatient Antibiotic Stewardship).

Here's the interesting thing, though: The healthcare industry started tracking its own progress in reducing unnecessary antibiotic prescriptions even before the scope of the problem was known—and had started corrective action. A study conducted by the Blue Cross Blue Shield Association showed a *downward trend* in antibiotic prescribing in the U.S. between 2010 and 2016.³ Check out the chart below—and reflect on the potential antibiotic-resistance-related deaths that have been prevented with each prescription that *wasn't* filled. ■

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REDUCTION IN ANTIBIOTIC PRESCRIPTIONS FILLED, 2010–2016



Data source: Blue Cross Blue Shield Association. Antibiotic prescription fill rates declining in the U.S. Available at: <https://www.bcbs.com/the-health-of-america/reports/antibiotic-prescription-rates-declining-in-the-US>. Accessed October 10, 2020.

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Thank you to everyone who joined us in October for the virtual event. We hope you enjoyed your time with us and encourage you to revisit the content now—and share it with others in your clinic.

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