

JUCM[®]

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Urgent Care
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of America



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CLINICAL **cme**

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Her life depends on your answer

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LETTER FROM THE EDITOR-IN-CHIEF

Hiring *Right* Requires the Right Approach



Employing an organizational psychologist or paying for expensive employee screening services is simply not in the cards for most urgent care centers. Yet, hiring “right” is perhaps the most important thing we do and the implications on our practices are considerable. Here are just a few of the areas most impacted by our talent acquisition success (or failure):

1. Risk, quality, and liability
2. Patient satisfaction
3. Operations and work flow
4. Culture

Now let’s look a little more deeply at each.

Risk, quality, and liability: Our core covenant is to provide the highest quality of care in a safe and effective manner to ensure the best outcome. This usually involves a credentialing process for providers and support staff. Putting thought into requirements for training, licensure, and experience along with a checklist of skills required for the job helps us protect patients and reduce liability. Make no exceptions!

Patient satisfaction: When hiring for customer service, we need to understand what our patients expect from their caregivers, then hire and train to support it. I have found attentiveness, compassion, and efficiency to be the most desirable traits here. Understanding how a candidate responds to common scenarios that require each will help identify a match.

Operations and work flow: Looking for predictors of reliability, flexibility, teamwork, and efficiency is critical to the success of a 365-day practice with variable and unpredictable volume. A poor fit here is guaranteed to create problems.

Culture: Start with a mission, vision, and values and be sure that candidates understand what they mean to the organization. Values should be clearly defined and communicated. Crafting questions that screen for shared values is essential.

Next, think about how you might query candidates in each of these categories for alignment and fit. Many of the newer recruiting sites have engines that support some screening of the candidate pool, but once you get to the interview stage, you see how imperfect these are. It is the live interview where the rubber meets the road, and being prepared with some open-ended questions that can determine fit is critically impor-

tant. The most effective questions identify common scenarios that create tension in our setting and elucidate how a candidate would respond to these. Here are just a few examples:

- **Call-outs:** How have you handled circumstances in the past that could cause you to be absent or late to work?
- **Workplace confrontation:** Give an example of coworker discord you have experienced, and how you handled it.
- **Changing gears:** Things change quickly in urgent care. How does it make you feel when asked to shift focus and speed? How do you typically respond?
- **Frustration:** Describe the most frustrating thing about your last job. How did you manage that? Describe a frustrating experience you had with a patient. How did you respond?
- **Attentiveness:** What do you think is an appropriate wait time to see a provider in urgent care? How would you handle a patient who complains about a wait less than that? How might you prevent dissatisfaction around wait times to begin with?
- **Conflicting ideas:** Describe how you handled an organizational decision that you disagreed with.
- **Staying late and coping with late-arriving patients:** What is your philosophy on closing time? How have you handled policies that differ from your philosophy? How do you react when a patient arrives immediately before closing? What if four patients show up just before closing? How does this impact your mood with patients and staff?

Employee turnover is expensive, disruptive, and culture-eroding, and the demands of healthcare (urgent care in particular) amplify this. Applying forethought and discipline to recruiting and interviewing can help an urgent care operator prevent bad marriages and messy divorces, and ensure our patients receive the care and experience we promise them. ■

Lee A. Resnick, MD, FAAFP

Editor-in-Chief, JUCM, *The Journal of Urgent Care Medicine*

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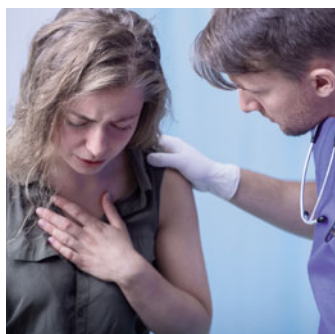
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KONICA MINOLTA

March 2018

VOLUME 12, NUMBER 6



11 Urgent Care Transfers: Why, When, and How

Emergency rooms are overflowing with patients who could be treated more efficiently in an urgent care setting. When the shoe is on the other foot and a truly emergent patient presents to urgent care, however, providers need to make immediate decisions on the correct course of care—often with the patient's life hanging in the balance.

Deborah Rogers, DO and Douglas A. Rund, MD

PRACTICE MANAGEMENT

18 The Case for an Interprofessional, Postgraduate NP/PA Fellowship in Urgent Care



Fellowships fulfill an essential need in the education of tomorrow's leading clinicians. Programs for nurse practitioners and physician assistants focused on urgent care are a rarity. Here's an inside story on one of them.

Christina Gardner, DHSc, MBA, PA-C; Alexandra Nassif, PA-C; Connie Brooks, MSN-FNP; and Kim Roe, MBA, RRT

CASE REPORT

27 A 38-Year-Old Man with Chest Pain



Chest pain is an atypical complaint in a 38-year-old man. As such, uncovering the cause may be a bit more involved than it would be in a patient in whom heart disease would be the most likely answer.

Max Palatnik, MD

HEALTH LAW AND COMPLIANCE

32 Misunderstanding Occupational Medicine Services 'Protocols'



The word *protocol* is overused in healthcare—so much so that in occupational medicine it threatens the nature of the relationship between employers and the healthcare providers charged with caring for their workforce.

Alan A. Ayers, MBA, MAcc

IN THE NEXT ISSUE OF JUCM

If you watched the NBA all-star game or the Grammy Awards—or, let's face it, if you walk down any American street in tank tops and shorts weather—you've seen all manner of body art proudly displayed. Every tattoo and piercing carries the risk for complications that are far from the individual's thoughts when they choose to adorn their flesh for the sake of personal expression, however. In the next issue of JUCM, we offer an original article on the pitfalls of tattoos, piercings, and body modifications from an urgent care clinician's view.

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

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Urgent care is an attractive career choice for clinicians who can think on their feet and relish the challenge of zeroing in on exactly what's wrong with a patient, and arriving at the right solution in less time than would be possible in many settings. Most of the time, patients present with concerns that can be handled perfectly well on site. Occasionally, however, the "right solution" means sending them to a higher-acuity setting.

Doing so responsibly requires administering whatever treatment will get the patient headed toward the best outcome while arrangements are made to transport them to the next facility. Information must be conveyed to the next provider so they can understand what they're dealing with and prepare accordingly. Urgent Care Transfers: Why, When, and How, by **Deborah Rogers, DO** and **Douglas A. Rund, MD** takes a similarly efficient, thorough approach to providing insights into the dynamics of those pressure-packed situations. It starts on page 11.

Dr. Rogers is an emergency medicine resident at Adena Health System and a former paramedic for Carter County Emergency and Rescue Squad. Dr. Rund is a professor and chair emeritus in the Department of Emergency Medicine at The Ohio State University, as well as medical director for both the Division of Fire and EMS in Worthington, OH and the EMS Program at Columbus State Community College.

Chest pain could easily be the precursor to one such presentation. Then again, it might not. That's a decision faced in a real-world case recounted by **Max M. Palatnik, MD, FAAEM** in this issue. It relays the details of a 38-year-old man who presented with chest pain—an atypical complaint in a relatively young patient. The case report by Dr. Palatnik, of Eastern Carolina Emergency Physicians, begins on page 27.

Everything described above demands every scrap of knowledge a provider has been able to accumulate throughout their training and clinical experience. Undoubtedly, some of that was soaked up during residency. However, programs for nurse practitioners and physician assistants in urgent care are few and far between. Fortunately, we're able to offer a close look at one of them thanks to **Christina Gardner, DHSc, MBA, PA-C; Alexandra Nassif, PA-C; Connie Brooks, MSN-FNP; and Kim Roe, MBA, RRT**. Their article, The Case for an Interprofessional, Postgraduate NP/PA Fellowship in Urgent Care, can be found on page 18. All four authors contribute to the program at Carilion Clinic in Virginia.

One thing that is far from rare in healthcare is use of the

word *protocol*. Yes, true protocols are essential in the efficient delivery of quality care—assuming the term is understood and applied correctly. Some employers misuse the term to reflect their own approach to what's best for their company when it comes to occupational medicine, where the clinician applies it to a course of action that would be best for the patient. It's a nuance rife with the potential for conflict, as **Alan A. Ayers, MBA, MAcc** explains in Misunderstanding Occupational Medicine Services 'Protocols' (page 32). Mr. Ayers is chief executive officer of Velocity Urgent Care and practice management editor of JUCM.



Also in this issue:

Glenn Harnett, MD reviews new information on the link between influenza and myocardial infarction, as well as recently published articles on the relative likelihood of airborne flu transmission, the latest proposal from the Centers for Medicare and Medicaid Services for lowering the risk for opioid addiction, and other topics of interest in Abstracts in Urgent Care starts (page 22).

As always, we're pleased to offer the expertise of **David Stern, MD, CPC** on all things relevant to revenue cycle management in urgent care. This month, he advises on the sensitive subject of engaging a collection agency to recoup revenue from patients who are past due on their bills (page 41).

Finally, a Note of Thanks to Our Peer Reviewers

We are proud to have so many urgent care professionals volunteer their time and expertise to contribute articles that will be relevant, useful, and of high interest to their colleagues. Their names are known to you by virtue of their bylines and the Contributors page. However, we (and you) are fortunate to have another group of urgent care leaders offer to review and comment on our content. Our peer reviewers help ensure we're giving readers what they need, in an urgent care voice. We thank the reviewers who have weighed in on our content so far in 2018:

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CONTINUING MEDICAL EDUCATION

Release Date: March 1, 2018

Expiration Date: February 28, 2019

Target Audience

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

Learning Objectives

1. To provide best practice recommendations for the diagnosis and treatment of common conditions seen in urgent care
2. To review clinical guidelines wherever applicable and discuss their relevancy and utility in the urgent care setting
3. To provide unbiased, expert advice regarding the management and operational success of urgent care practices
4. To support content and recommendations with evidence and literature references rather than personal opinion

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CONTINUING MEDICAL EDUCATION

JUCM CME subscribers can submit responses for CME credit at www.jucm.com/cme/. Quiz questions are featured below for your convenience. This issue is approved for up to 3 AMA PRA Category 1 Credits™. Credits may be claimed for 1 year from the date of this issue.

Urgent Care Transfers: Why, When, and How (p. 11)

1. All of the following require emergent transfer to an ED, except:

- a. Chest pain and ST elevation on ECG
- b. Chest pain radiating to the back with hypotension
- c. Extremity trauma with signs of compartment syndrome
- d. 1st degree AV block on ECG
- e. Unilateral facial paralysis for the last 90 minutes

2. A 38-year-old woman presents after eating peanuts with a rash, wheezing, and stridor. Which of the following interventions is most important to administer while awaiting EMS transfer?

- a. Oral Benadryl
- b. IM epinephrine
- c. IM Solu-Medrol
- d. Oral Pepcid
- e. Oral prednisone

3. Which of the following should be done in patients who decline transfer and want to leave against medical advice?

- a. Explain what could happen if they choose to not have the treatment/transfer
- b. Offer alternatives. Just because they refuse a transfer does *not* mean you should stop all care
- c. Urge them to come back or go to the planned receiving if they change their mind
- d. Document all of your discussions *and* have the patient sign an AMA form
- e. All of the above

The Case for an Interprofessional, Postgraduate NP/PA Fellowship in Urgent Care (p. 18)

1. What are the key goals of a postgraduate Advanced Clinical Practitioner (ACP) Fellowship?

- a. Prepare ACPs for patient acuity
- b. Refine procedural skills
- c. Increase knowledge through didactic training
- d. Increase patient flow
- e. All of the above

2. How would the incorporation of ACPs into an urgent care center help with practice management?

- a. ACPs would help with patient care as the physician shortage worsens

- b. ACPs would help support admin staff
- c. ACPs would take over some duties from providers
- d. None of these
- e. a and c

3. What skills are covered in the Carilion Clinic Advanced ACP Fellowship in Urgent Care boot camp?

- a. EMR training
- b. Urgent care orientation shifts
- c. Management tools
- d. a and b
- e. All of the above

A 38-Year-Old Man with Chest Pain (p. 27)

1. Which of the following may be a life-threatening cause of chest pain?

- a. Acute coronary syndrome (myocardial ischemia and infarction)
- b. Aortic dissection
- c. Pulmonary embolism
- d. Pericarditis with cardiac tamponade
- e. All of the above

2. Human immunodeficiency virus (HIV) infection has recently been identified as an independent risk factor for premature atherosclerosis. What is the mechanism?

- a. Endothelial injury to coronary vessels, initiating an inflammatory cascade leading to atherosclerotic lesions
- b. Lifestyle behaviors which increase the risk of atherosclerosis
- c. HIV virions which selectively invade the myocardium
- d. The lack of CD4 cells causes vasoconstriction, leading to elevated blood pressure
- e. Concomitant administration of NSAIDs which increased arrhythmias

3. Serial ECGs can increase the diagnostic yield at confirming the presence of ACS in patients with ongoing symptoms

- a. True
- b. False



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What's Our Rallying Cry?

■ LAUREL STOIMENOFF, PT, CHC

I periodically like to see what other associations are doing on behalf of their members and industries. Recently, I was intrigued by an initiative of the Brewers Association. The Association launched the largest crowdfunding campaign in history to #TakeCraftBack from Anheuser-Busch In-Bev (ABI). Belgium-based ABI has been acquiring smaller, independently owned craft breweries since 2011, so the Brewers Association elected to rally their membership to raise a mere \$213 *billion* (yes, with a B) to buy ABI. Only pledges, not actual donations, will be accepted unless those pledges reach the targeted purchase price—a hypothetical figure to demonstrate the potential of the Association's membership. Nonetheless, this represents an association orchestrating a message that is being heard by many.

Identifying Our #TakeCraftBack

It was the simplicity of the message that I found so intriguing. Each day, team UCAOA is engaged in a myriad of industry and member-supporting activities. We do this through multiple channels including, but certainly not limited to, education, advocacy, board-member strategy sessions, benchmarking, media communications, research, committee work, chapter and section support, and the contributions of valued volunteers.

UCAOA is privileged to support a diverse membership who join with equally diverse agendas and expectations. So, what is our singular message we cannot only all agree upon, but also support with a vengeance?

In a recent survey of middle-market healthcare companies, *reimbursement* was cited as the #1 challenge for 2018. Many urgent care copayments have become so high that they represent the bulk of the anticipated payment, while the costs associated with billing the payers for a shrinking percentage of the total claim continue to rise. It baffles me that urgent care centers are not universally recognized as an essential component in the provision of acute primary care services.



Laurel Stoimenoff, PT, CHC, is Chief Executive Officer of the Urgent Care Association of America.

"It's baffling that urgent care centers are not universally recognized as an essential component in the provision of acute primary care services."

The shortage of primary care physicians is deemed a crisis. Urgent care integration with the PCP practice is a clear solution, yet reimbursement models seem focused on creating disincentives to seek care in the UC setting. So, should our singular message center on fair compensation for the important role we play in keeping communities healthy? Or perhaps we agree that even though emergency departments are overcrowded, patients continue to seek care for conditions that could be cost-effectively cared for in the urgent care center. Should our mantra therefore be focused on breaking down barriers and getting patients to the right care at the right time in the right setting?

Make Your Voice Known

We want to hear from you. Urgent care's largest convening of key stakeholders takes place at the UCAOA Annual Convention & EXPO, May 6–9 at the Paris Hotel in Las Vegas. I will be accompanied by UCAOA colleagues and Board members who all want to know what you believe our agenda needs to be to ensure member and industry success. While we are committed to our long-term strategic plan, we remain open to responding to needs of our members as they arise.

Aretha Knew

I have said it before, but I repeat it because it is heartfelt: We are privileged to serve urgent care centers and stakeholders. Cost-effective access to a competent, caring medical provider *today* should be an option for all. The providers and operators who open their doors every day, particularly at times when others don't, deserve fair reimbursement for what they do. Aretha Franklin may have articulated our rallying cry many years ago. We just want a little R-E-S-P-E-C-T. #UrgentCareRespect. ■



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Urgent Care Transfers: Why, When, and How

Urgent message: Urgent care is well established as an appropriate destination for many patients whose symptoms are not limb- or life-threatening. When a truly emergent case presents, however, we need to provide immediate care and assess whether the patient can receive optimal care on site or needs transfer to a higher-acuity setting.

DEBORAH ROGERS, DO and DOUGLAS A. RUND, MD

Howboys of medicine? We are able to diagnose and manage almost all complaints at the bedside with our history and exam, but what happens when the emergency presents? We all know that patient—a well-intentioned soul who has been putting their symptoms on the back burner and is now fighting off the sickle with all of their might.

Why didn't they just go straight to the ED?

While we can provide care for varied symptoms, we do have certain limitations; room 3 is not an interventional cardiology suite, and it is probably best to use that BIC pen to sign prescriptions instead of performing an emergent tracheostomy!

When the emergency presents, the patient will need rapid assessment, stabilization, and preparation for transfer to the best available facility. We need to rapidly recognize the acuity, and quickly make a decision: Can the patient be transported by private car, private ambulance, or advanced life support (ALS)-capable emergency medical services (EMS)? And do we recommend emergency transport with "lights and sirens"? Appropriate decisions on mode and speed of transfer can have profound implications on outcomes.

Common Presentations/Indications Requiring Transfer

So, which patients with which conditions do we transport? The short answer is, anyone with a condition that we cannot handle at the facility or anyone who needs hospital admission. However, *transport* can have many different meanings. For example, the man with non-



emergent epistaxis may be able to travel by private car to the ENT office for follow-up, while the woman with STEMI will need to go straight to an interventional cardiology suite. In general, our disposition decisions could include the following:

- Early follow-up with the patient's primary care physician
- Early follow-up with a specialist
- Urgent care-ordered lab or radiologic testing with urgent care follow-up for test results

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Table 1. Recommended Emergent EMS Transport for Patients with Chest Pain

- Dynamic ECG changes
- STEMI
- Hemodynamic instability
- Chest pain that began within the past 6 hours
- Ripping sensation or pleuritic pain
- High risk associated symptoms such as shortness of breath, altered consciousness, diaphoresis
- Abnormal vitals including tachycardia

- Admission to a specialized facility
- Urgent transfer to an emergency department
- Emergent transfer to an emergency department

It's all easier said than done. For example, what seems like a simple muscular strain could actually be a deep vein thrombosis (DVT). A seemingly obvious diagnosis of chest wall strain could actually be a thoracic aortic dissection. The balance of over-transferring vs sending a patient home for outpatient follow-up can sometimes be difficult and represent a fine line. Here, we explore conditions with possible diagnoses ranging from benign to life-threatening, with focus on chest pain, stroke, sepsis, shortness of breath, extremity pain, trauma, abdominal pain, and acute change in mental status.¹

Time-Sensitive Conditions

Emergency medical technicians (EMTs) and paramedics are taught that the truly emergent conditions are myocardial infarction, stroke, sepsis, and major trauma. Because earliest possible definitive treatment is lifesaving, immediate, emergent transport to the most appropriate facility is outlined in most EMS protocols.

Chest Pain

Let's start with chest pain. The life-threatening conditions are myocardial infarction, thoracic aortic dissection, pulmonary embolism, and tension pneumothorax. In some respects, the STEMI is our easiest case; the patient has classic chest tightness radiating to the jaw or arms and the ECG shows ST-segment elevation. Emergent transfer directly to the catheterization suite to open the arterial blockage is the clear choice. But what about atypical symptoms? Diabetic patients may have diminished pain sensitivity. Women may present with atypical symptoms such as shortness of breath, fatigue, epigastric pain, nausea, or sleep disturbances, or pain in the right shoulder.

A good argument can be made that virtually all adult patients with chest pain deserve an evaluation with a 12-lead ECG. But what about the patient with those vague

chest pains and a normal or nonspecific 12-lead ECG? A non-STEMI may well be lethal but could be overlooked if the ECG alone is considered. Calculation of a risk score for acute coronary syndrome is the best option in such cases. High-yield risk scores include age, sex, cardiovascular risk factors, and chest pain characteristics.^{2,3}

Of course, patients often have more benign causes of chest pain, such as chest wall strain from coughing, esophageal reflux, or conditions such as herpes zoster, where the pain may precede the development of rash. Pain that tends to suggest a more benign cause can be pleuritic, sharp, related to cough, localized with one finger, reproduced by palpation, fleeting pain lasting a few seconds or less, or pain radiating into the lower extremities. As with all potentially worrisome symptoms, the most helpful question is, "Why did you seek treatment *now*? What changed?" Adults with new-onset or markedly worsened chest pain deserve an appropriate evaluation, including an assessment of risk factors for myocardial infarction.

Physical assessment usually begins with the physician taking a quick look at the patient's general appearance and determination if the patient looks "sick" or "not sick." Experienced clinicians can usually make this determination quickly. Is the patient pale, ashen, gasping for breath, or in excruciating pain? Review of the vital signs is next, and any abnormal vital sign must be explained. In cases of chest pain, tachycardia is a hallmark of pulmonary embolism but may be associated with myocarditis or tachyarrhythmia. Paramedics will measure pulse oximetry in patients with chest pain. Low PO₂ can be associated with pulmonary embolism, pneumonia, bronchoconstriction, or congestive heart failure.

Stroke

The treatment of thrombotic stroke has evolved so rapidly in recent years that earliest possible CT scan and transfer to the endovascular suite in a comprehensive stroke center gives the patient a chance for full recovery. Most EMS providers evaluate patients with suspected stroke with one of the following scales:

- Cincinnati Pre-hospital Stroke Scale (speech, facial droop and arm drift)
- Los Angeles Motor Scale (LAMS)
- Miami Emergency Neurologic Deficit (MEND)

The LAMS scale evaluates facial droop, arm drift, and grip strength. The Cincinnati Scale and LAMS look for evidence of large cerebral vessel occlusion; thus, the need for earliest possible endovascular intervention if such is available in a reasonable time frame. The MEND

exam is a miniaturized version of the NIH stroke scale and is available in an iPhone app that allows the provider to calculate the score and get a final written summary immediately.

Stroke mimics can be caused by hypoglycemia, Bell's palsy, or a Todd's paralysis following a seizure. Paramedics are expected to obtain a blood glucose in every patient with suspected stroke. For thrombotic stroke, current guidelines suggest that TPA be given within 4.5 hours of stroke symptom onset.⁴ A patient with symptoms suggesting a stroke and within the TPA window should be transported by EMS emergency traffic to a stroke center. Interventional therapy can lengthen this time frame up to 6-12 hours.⁵

Sepsis

The third time-critical illness in EMS is sepsis, a life-threatening condition. Suspicion of sepsis is a first step in its recognition. Does the patient have fever, tachycardia, and elevated respiratory rate? Is there a suspected source of infection (urinary tract infection, pneumonia, or decubiti)? Is the patient immunocompromised and/or elderly? EMS personnel are trained to have a low threshold for suspecting sepsis, to treat with large volumes of intravenous fluids, and call a "sepsis alert" to the receiving facility.

Shortness of Breath

Shortness of breath also has a wide range of presentations and complications. A 10-year-old with asthma on exertion that ran out of their inhaler a week ago and who is in minimal distress can likely be treated and sent home after symptom resolution. However, that same child in moderate distress with no resolution after ipratropium bromide (Atrovent)/albuterol aerosol will, in all likelihood, need EMS transport to a facility that handles pediatric patients. If the patient can be stabilized and will likely need admission, it is important to ensure the receiving facility admits pediatric patients. However, if stabilization isn't achieved at the urgent care center, then transfer to the closest emergency department is the best option.

Extremity Pain

Whether traumatic or infectious, extremity pain is a common complaint that can quickly become complicated. Mild cellulitis in an otherwise healthy patient could be treated with a quick antibiotic prescription and follow-up with a primary care physician. However, the same patient with crepitus suggesting a necrotizing soft tissue infection (NSTI) needs to be transported by EMS

Table 2. EMS Transport Recommended for Shortness of Breath

- Tachycardia, tachypnea, hypoxemia
- ECG changes
- History of CHF
- Previous PE
- Patient beginning to tire from work of breathing

"We can manage most minor traumas on site, followed by referral—treat and street. Fortunately, new guidelines help in the evaluation of extremity injury."

for surgical debridement. Some conditions that will also require EMS transport include extremity symptoms of intractable pain, open fracture, compartment syndrome, or consideration of NSTI.

Minor Trauma

We are capable of managing most minor traumas on site, followed by referral ("treat and street"). Fortunately, new guidelines help in the evaluation of extremity injury. These include the Ottawa foot and ankle rules, which decrease imaging in ankle injuries and show a "decrease in ankle radiography, waiting times, and costs without an increased rate of missed fractures."⁶ The Canadian C-Spine rules or NEXUS criteria help decrease imaging of the C-spine.^{7,8}

Sometimes patient circumstances determine the urgency and need for transport. For example, an elderly patient who is taking an anticoagulant who falls and sustains a head injury (even seemingly minor) will probably need to be transferred for a CT of the head. The timing of the fall, however, may sway the decision on how the patient is transferred for imaging. A recent fall with a loss of consciousness should go by an ALS transport unit. A fall that occurred >24 hours ago in a patient who is oriented and thinking appropriately could be driven by a family member if the patient and their story are reliable.⁹

Abdominal Pain

Abdominal pain is a tricky complaint. Our history will

Table 3. EMS Transport for Acute Abdominal Pain

- Acute abdomen on physical exam
- Hematemesis
- Abnormal vital signs
- Intractable nausea and vomiting
- Pain out of proportion to exam (mesenteric ischemia)
- Pain radiating to back if leaking AAA or pancreatitis suspected

get to the bottom of many complaints, and the physical exam may hone the diagnosis with findings of an acute abdomen, bruising, distention, surgical scars, or infection. But vague or long-term abdominal pain with normal vitals are sometimes able to be discharged home or asked to return for serial abdominal exams. A urinalysis is helpful in ruling out ureteral stone and infection of bladder or kidney.

Women of childbearing age should be asked about pregnancy and, when in doubt, a urine pregnancy test will be helpful.

The pregnant patient with acute, severe abdominal pain will require EMS transport to the ED for evaluation for ruptured ectopic pregnancy and other obstetric-related emergencies.

Pain which radiates to the back may be a symptom of leaking abdominal aortic aneurysm (AAA), or pancreatitis or biliary stone.

Some patients will need referral for abdominal imaging if that is not available at the urgent care center. The long-term risk of cancer from computerized tomography is real, so many centers will opt for ultrasound or magnetic resonance imaging (MRI) in some cases. For example, ultrasound may be a first study to consider in evaluating pediatric patients with suspected acute appendicitis.

Acute Change in Mental Status

Acute changes in mental status are most likely due to medical conditions, rather than psychiatric illness, unless the patient has a history of such illness. Overdose of medication (especially opiates) is now so common that it is a first thought in the minds of many EMS providers. Other medical causes of acute mental status change include alcohol intoxication or withdrawal, infection (CNS or sepsis), hypoglycemia, hypoxia, stroke, or occult head trauma. Abnormal vital signs, diaphoresis, or nystagmus are physical signs that point to acute medical illness.

Extremes of Age

Both pediatric and geriatric patients sometimes prove

Table 4. EMS Transport for Mental Status Changes

- Last known well <4.5 hours
- Decreased level of consciousness
- Abnormal vital signs
- Focal neurological symptoms and signs

Table 5. EMS Transport for Pediatric or Geriatric Patients

- | | |
|--|---|
| <ul style="list-style-type: none"> • Elderly patients <ul style="list-style-type: none"> – Abnormal vital signs – Chest pain – Shortness of breath – Altered mentation | <ul style="list-style-type: none"> • Infants/children: <ul style="list-style-type: none"> – Concern for period of apnea – Fever in infants <4 weeks of age – New onset nonfebrile seizure |
|--|---|

difficult to diagnose. They may display unusual presentations of ordinary problems. History-taking is difficult in very young children, and the elderly with some form of dementia are difficult to evaluate. One helpful clue to medical emergency is an abnormal vital sign. Fever suggests infection; tachycardia suggests circulatory failure or pulmonary embolism, for example. Patients with abnormal vital signs evaluated in the urgent care setting have documented increases in morbidity and mortality.¹⁰

Initial Stabilization and Management

Efforts to stabilize the patient in the urgent care center should be performed while awaiting EMS arrival. Although evaluation and treatment will be started and continued by EMS, initiation of treatment in urgent care may make the difference between life and death. Intramuscular epinephrine must be given as soon as possible to patients with anaphylaxis. Nebulized albuterol is given in an acute asthma exacerbation. Administration of aspirin and placement of an intravenous line in a STEMI patient is extremely helpful if the patient develops a life-threatening arrhythmia. Procedures like splinting and bandaging can be completed without delaying transport.

Perhaps the most important act of the urgent care physician is to greet EMS on arrival. Although this may mean interrupting other patients' visits, it is important to provide EMS with an accurate history and list of treatments to date, as well as help EMS begin treatment and transport as soon as possible.

Emergency Medical Services: Resources and Equipment

EMS brings a lot to the table when they come to transport

a patient. If additional personnel or equipment is needed, most EMS systems can request such back-up. Every agency has minor variations. Usually, however, when you request an ALS ambulance you can expect the following:

Trauma

- Cervical collars
- Tourniquets
- Patient extrication equipment including backboards
- Splinting and dressing supplies
- Intravenous (IV) fluids

Cardiac

- Cardiac monitoring
- Intravenous fluids, crystalloids, and medications including antiarrhythmic agents and vasopressors
- Pacing/ cardioverting and defibrillating capabilities
- Oxygen

Respiratory

- Nebulized breathing treatments
- CPAP
- Airways
- Supraglottic devices
- Intubation supplies
- RSI medications in some systems
- Surgical airway

Mode of Transport

The choice between EMS and a personal vehicle cannot be made lightly, and requires consideration of several factors: Is the patient alone? Do they have a reliable driver? Is there a chance the patient may deteriorate? Do the patient and family understand the severity of their illness, and will they go straight to the ED?

EMS is a viable option for transport, and is the obvious choice if the patient is unstable or if you are anticipating the patient to deteriorate during transport.

Once you determine the patient needs EMS transport, there are more decisions to be made. There are still regions of the U.S. that may not have ALS ambulance coverage. While most patients will need ALS transport, you may be able to have a basic life support (BLS) crew

transport a select few.

National Registry Emergency Medical Technicians (NREMT) have several categories of certification. Above is a quick overview of the capability of each level by NREMT standards. Different agencies may be able to perform at a higher or lower standard according to their protocol and medical directors' orders.

Ground vs air

Air transport is held in high regard among prehospital EMS. However, it may not be the optimal form of transportation for your patient. When time is a factor and the distance to definitive care is great, this may be the logical choice. There are several points to consider when delineating between air vs ground. Is there a place to land the aircraft, for example? You also have to consider the time for the aircraft to launch and land. In many instances, once you factor this time in, a ground transport is quicker. Also, in many locations the patient will still require a ground EMS unit to transport to the aircraft.

Emergency vs Nonemergent Transport

Does your patient require an emergency transport or nonemergent transport? Along with the patient report, vitals, and interventions you have performed, you should also make EMS aware of expected complications that may arise, and offer suggestions for correcting these if possible. This is when your suggestion for transport mode should be relayed to the crew. Emergency transport should be used only when there would be a possibility of harm to the patient if there was a delay in care.

Emergency Medical Personnel—Capabilities by Certification ¹¹			
	EMT	Advanced EMT	Paramedic
Airway	Oxygen	Esophageal-tracheal Multi-lumen airways	BiPap/CPAP Intubation Percutaneous cricothyrotomy Needle chest decompression
Medications	Oral Glucose Aspirin	Nitroglycerine Epinephrine for anaphylaxis D50 and glucagon Albuterol Narcan Nitrous oxide	Cardiac medications Narcotics Paralytics Maintenance of blood Thrombolytics
Cardiac	CPR AED		Cardiac monitoring Cardioversion Manual defibrillation Transcutaneous pacing

Table 6. Conditions Calling for Lights and Siren Transport to the Hospital¹³

Category	Condition
Respiratory	<ul style="list-style-type: none"> • Airway cannot be secured <ul style="list-style-type: none"> – More than 2 failed intubation attempts – Abnormal anatomy • Cannot adequately ventilate <ul style="list-style-type: none"> – Oxygen saturation less than 93% with non-rebreather mask
Cardiac	<ul style="list-style-type: none"> • ST elevation myocardial infarction (STEMI) • Systolic blood pressure less than 90 despite IV fluid bolus • Abnormal heart rate <ul style="list-style-type: none"> – Symptomatic bradycardia not responding to transcutaneous pacing – Persistent tachycardia not responding to fluid bolus
Neurologic	<ul style="list-style-type: none"> • Stroke, acute • Evidence of acute spinal cord injury • Seizure without return to baseline within 10 minutes of onset
Infection	<ul style="list-style-type: none"> • Sepsis
Overall status	<ul style="list-style-type: none"> • Worsening patient status from any cause

Some instances include unstable vitals, a myocardial infarction, or shortness of breath that cannot be resolved at your facility, or may return prior to arrival at the accepting facility.

Emergency Transfer: Lights and Siren

Use of lights and siren increases the risk of accidents with injury to drivers, EMS personnel, and their patients, and thus is controversial. The risk is particularly high at intersections where drivers may be distracted and not recognize EMS vehicles proceeding through red lights or stop signs.

Lights and sirens are used in two circumstances. The first is in response to an EMS call; the second is in transport of the patient to the hospital. In some studies, use of lights and sirens in response to a 911 call showed minimal effects on response time or patient outcome.¹²

Not every call requires lights and sirens, but some are clearly time-critical and do require such a response. Call centers that dispatch EMS may use algorithms and protocols that indicate the speed of response needed by EMS. Such priority dispatching determines the need for the use of lights and sirens in response to the call. The content of the information relayed to the call center by urgent care will be critical in determining the response.

For transport to the hospital, some authors have rec-

ommended use of lights and sirens if the conditions listed in Table 6 are present.

Appropriate Accepting Facility

“You don’t have to go home, but you can’t stay here.” The Oak Ridge Boys may have a good point, but there are several factors that should influence your patient’s destination. While we know that the patient always has the last say in where they go, they also need to be able to make an *informed* decision. A significant delay in care will occur if a patient is transferred to an inappropriate facility. It would be of little benefit to send an MI to a facility that had no percutaneous coronary intervention (PCI) capabilities, or a patient with an acute stroke to an ED without the ability to at least administer systemic thrombolytic agents if it’s possible

to send them to a comprehensive stroke center capable of endovascular intervention.

Communicating with the Accepting Facility

Handoffs often result in errors; the lack of face-to-face communication is fraught with challenges. When contacting the accepting facility, we are frequently faced with issues that allow us to leave a less-than-perfect patient report. Not being able to speak to the accepting physician, whether it is you speaking to a transfer center or to a generic physician at the accepting facility but who may not be the physician actually taking your patient when they arrive, is a less-than optimal circumstance.¹⁴

Communicating to the facility should be a top priority, as this will allow them to understand the acuity of the patient as well as your concerns. For example, an elderly patient with a pulsatile abdominal mass and hypotension should be transported emergently with concomitant notification of the ED and/or vascular surgeon. Transfer should not be delayed, but a diagnosis of a likely surgical problem with arrangements for emergent management will improve outcomes.

Call Them Back!

A good way to tie everything together and close the loop of communications is by a second call to the accepting facility an hour after transfer. A call back to the accepting

Table 7. Specialized Hospitals and Services

- Pediatric hospital
- Trauma center
- Cardiac PCI capabilities
- Stroke center
- Surgical specialties

physician allows for a final discussion of your concerns, and allows you to answer any questions that may have arisen and ensure that the patient did present to the facility if they went by personal vehicle.¹⁵

Against Medical Advice

As long as the patient is of sound mind and judgment, they can refuse your recommendations. Even if you believe the patient needs to be seen and treated at another facility, they can elect to end their treatment at your facility. If your patient chooses this, there are several steps that you should take. It is sometimes helpful to have the patient repeat these things back to you verbally, so you know they understand. In addition:

- Attempt to understand why they are refusing.
- Understanding and discussing their concerns may convince them to continue with your recommendations.
- Explain their condition.
- Explain why you are wanting to transfer them.
- Explain their treatment options and your recommended treatment.
- Explain what could happen if they choose to not have the treatment/transfer.
- Offer alternatives. Just because they refuse a transfer does *not* mean that you should stop all care (eg, a patient with an infection should still receive a prescription for the appropriate antibiotics).
- Urge them to come back or go to the facility you were planning on transferring them to if they decide to continue care.
- Document all of your discussions thoroughly *and* have the patient sign an Against Medical Advice (AMA) form.

Conclusion

Transferring a patient is a multifaceted and time-consuming process. There are several areas in which errors can easily arise. Taking care to understand who needs to be transferred, what the appropriate facility is, and how the patient will get there are key components to optimizing the patient's urgent care experience. ■

Table 8. Six Things to Communicate to the Receiving Facility

1. Patient chief complaint
2. Provisional diagnosis/acuity
3. Vital signs
4. What concerns you about the patient
5. Interventions you preformed
6. Mode of transport

“If a patient refuses recommendations for transfer, document all of your discussions and have them sign an AMA form.”

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The Case for an Interprofessional, Postgraduate NP/PA Fellowship in Urgent Care

Urgent message: Postgraduate fellowship programs are essential to the development of highly trained providers who can support the ongoing growth of the urgent care marketplace in the midst of a national physician shortage. However, historically there have been few available to nurse practitioners and physician assistants in urgent care.

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Introduction

A 2017 report of the Association of American Medical Colleges (AAMC), predicted a shortage of 40,800 to 104,900 physicians by 2030.¹ One of the best methods to address this physician shortage is to utilize advanced clinical practitioners (ACPs) in all fields of medicine, but perhaps no place more so than in urgent care. Since 2005, there has been an increase in the acceptance and utilization of team-based care, which utilizes ACPs, in most healthcare systems.² Now that ACPs are working within a clinical team, the next logical step is to allow for team and interprofessional training to occur to further team-based care, increase the autonomy of the ACPs in the appropriate clinical settings, and to provide increased access to care for patients.

Carilion Clinic, a fully integrated health system operating seven hospitals and eight urgent cares in southwestern Virginia, has developed a novel interprofessional postgraduate fellowship program that allows for ACPs to train together with a special focus on urgent care medicine. This article will discuss postgraduate training in urgent care medicine as it relates to practice management challenge in urgent care centers, and the solution for these issues in the form of an urgent care fellowship model for ACPs.



Source: Fotolia.com

The Case for Urgent Care Medicine-Trained ACPs

Urgent care is essential to lowering the cost of healthcare,

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increasing access to care, and decreasing emergency department overutilization. Seventy-three percent of Americans who report having no access to primary care on nights, weekends, and holidays report that urgent cares provide access to care at a substantially lower cost than EDs.³ Evaluation and treatment for common illnesses such as urinary tract infections, allergies, or upper respiratory infections cost 3.5 to 6 times more at an ED than at an urgent care center.⁴

Urgent care provides medical services to a high volume of patients and requires providers to quickly assess situations and efficiently perform procedures, including suturing, splinting, foreign body removal, incision and drainage, and pelvic exams.

In 2014, on average, urgent care providers cared for four patients an hour with an average of 50 patients per day. Further, 91% of urgent care centers expected growth in the next fiscal year.⁵ Similarly, ACPs are being utilized more in urgent care every day, and 50% of urgent cares have an ACP as part of their staff.⁶

The need for postgraduate fellowship-trained ACPs was initially determined from the trajectory of healthcare in the United States. Americans make more than 350 million visits to healthcare providers per year for acute care, but fewer than half involve the patient's primary care physician.⁷ Urgent care medicine fills a critical need for access to care due to the shortage of family medicine practices, few available primary care appointments, and the overcrowding of EDs. In response to the increased utilization of urgent care, more ACPs are being hired in these clinics, sometimes working as a solo provider. However, newly graduated ACPs are often not prepared for the high volume of patients that they are expected to see. Consequently, key goals of postgraduate fellowships are to prepare all ACPs for the varying levels of patient acuity they will see in urgent care, refine necessary procedural skills, increase their breadth of knowledge through didactic training, and increase their patient flow in preparation for managing a busy urgent care clinic.

Practice Management Solutions

ACPs will continue to be called upon in greater numbers to meet urgent care practice management challenges in provider staffing, patient flow, provider efficiency and quality of care, and customer satisfaction. Incorporating

“There are 62 fellowship programs for PAs and 102 for NPs in the U.S.; however, very few specialize in urgent care medicine.”

ACPs can ease the burden on the remaining physicians in practice, improve provider staffing ratios, and generally ensure smoother operation during patient volume surges.⁸ Urgent care-specific postgraduate fellowship programs can help ensure they're prepared to do so.

Typically, newly hired ACPs are only provided a 30-day orientation program that is not designed to increase their medical knowledge, but rather to orient them to the electronic medical record, and to the clinic. As such, it is vital to patient care and safety to have fellowship training programs aimed at increasing their competency and efficacy. Goudreau, et al reported on the induction of a yearlong nurse practitioner residency at a Veterans Health Administration facility, noting that the directors of this program were aware of the many challenges faced by the novice NP, including the difficulty of managing the large volume of patients with complex medical conditions that the VHA serves.⁹ This residency, which is akin to a fellowship program, served to provide an easy transition into the new role, improve collegiality between peers, and, most importantly, increase the competence of the NP resident.

Additionally, fellowships aid in retaining fellowship-trained ACPs and decrease the turnover rate of these providers. Research from Kells, et al supports the use of fellowships to increase recruitment and retention of ACPs.¹⁰ Kells, et al also report on the need for further specialty training of ACPs going into specific specialties, such as urgent care medicine, as they may not have been provided such education in their respective graduate programs.¹⁰

Fellowship History

Historically, there has been no generally accepted training program for ACPs in urgent care medicine (except for on-the-job training). Urgent care medicine is also not specifically taught in PA or NP programs. With the breadth of medical issues presenting to urgent care, the limited amount of time available for training, and the growth in urgent care facilities run by ACPs, fellowship training is a logical next step in the evolution of ACP training. It's been only in the past 12 years that fellowship programs for ACPs became available across the country. Currently, there are 62 fellowship programs for

PAs and 102 for NPs in the United States.^{11,12} However, very few specialize in urgent care medicine. Carilion Clinic's Advanced ACP Fellowship in Urgent Care and Rural Health is one, having been designed to embrace interprofessional learning for both NPs and PAs.

This fellowship is unique, to our knowledge, in its incorporation of rural medicine, urgent care medicine, weekly didactic components, and the variety of clinical experiences provided to the ACP fellows. Additionally, as with any fellowship, the interprofessional relationships that are built through the various rotations are invaluable. The ACP fellows work together, but they also benefit from didactic training with family medicine resident physicians.

The Carilion Clinic Advanced ACP Fellowship in Urgent Care and Rural Health begins with a 4-week intensive didactic training course, called Boot Camp. This time is spent reviewing the major topics the fellows will encounter throughout the fellowship year and are specific to urgent care medicine. Boot Camp is intended to enhance a wide variety of skills through lifesaving courses, EMR training, and urgent care orientation shifts, as the fellows learn how to transition didactics to clinical practice efficiently. The fellowship includes clinical rotations in Urgent Care, Primary Care, and off-service rotations such as Emergency Medicine, Pediatrics, Obstetrics and Gynecology, Occupational Medicine, Ophthalmology, Orthopedics, Wound Care, Home Health, Psychiatry, and ENT. Close collaboration with urgent care physicians and specialist providers serves to increase exposure to a wide array of medical issues, increasing the confidence of the ACP in diagnostics and creating treatment plans. The clinical rotations also further prepare the ACP to practice without ordering labs or imaging studies that may retrospectively be deemed unnecessary.

Once in the urgent care setting, shadowing shifts allow the fellows to become comfortable with the EMR, staff members, and different practice locations. Over the first 6 months of the fellowship year, the fellows serve as "additional" providers during their clinical shifts in the urgent care center, thus enhancing, instead of inhibiting, patient flow. Fellows work closely under the supervision

"Upon completion of their training, ACP fellows should be highly skilled practitioners able to care for patients effectively and efficiently in an urgent care setting."

of attending physicians during their clinical shifts.

Numerous evaluation techniques have been implemented to ensure the success of the fellowship and provide 360-degree evaluation. Three series exams are given to the fellows throughout the year to assess the knowledge base and to track their progress. Preceptors complete evaluations on the fellows as soon as the rotation has ended.

This allows for a firsthand account of the fellows' skill level and also identifies areas for potential growth.

Fellows complete evaluations on each preceptor and clinical rotation. Likewise, the director of the fellowship routinely completes evaluations of each fellow with information gathered from exams, weekly quizzes, preceptor reports, and personal interactions. The fellowship director stays in close contact with the ACP fellows to ensure continued coaching and support, in addition to welcoming recommendations from the fellows regarding didactic content and areas where the fellowship could further enhance learning.

Furthermore, didactic, academia, and research components are incorporated into the curriculum. Didactic lectures specific to urgent care medicine are provided 1 day per week. Additionally, weekly conferences are attended by the ACP fellows with the family medicine residents. Advanced skills are taught during didactics through the utilization of an advanced simulation lab. Advanced procedural skills (eg, suturing, obstetric delivery, advanced airway management, ultrasound-guided IV placement, chest tube placement, and lumbar punctures) are practiced throughout the fellowship year via simulation.

The ACP fellows also participate in academic pursuits throughout the fellowship year, including providing lectures to other PA and NP programs on various topics, as well as presenting lectures at state conferences.

The ACP fellows conduct research throughout the fellowship year, as well. Carilion Clinic's ACP fellowship program has collaborated with Jefferson College of Health Sciences (JCHS) to provide an optional health-care administration component to their education. JCHS has provided three courses during the fellowship year, which allows the fellows to work toward the Graduate Certificate in Healthcare Administration.

Upon completion of their training, these ACP fel-

lows should be highly skilled practitioners able to care for patients effectively and efficiently in an urgent care setting, while also being well-rounded practitioners with experience in research, academia, and healthcare management.

The Carilion Clinic Advanced ACP Fellowship in Urgent Care and Rural Health has retained 100% of its ACP fellows upon graduation in its inaugural year. Thus, the ACP fellowship has been able to directly address practice management challenges regarding recruitment, staffing, and retention of highly qualified providers.

Conclusion

The success of any practice lies in outcomes, patient safety, provider recruitment and retention, and patient satisfaction. Urgent care clinics are no exception. Typically, however, their fast-paced environment is not conducive to a “breaking in” period for newly employed ACPs—at least to the degree necessary to be efficient and autonomous in the typical 30-day orientation timeline. At the same time, with the increasing utilization of ACPs in urgent care clinics, the need to develop postgraduate fellowship training programs has risen. Carilion Clinic’s Advanced ACP Fellowship in Urgent Care and Rural Health has demonstrated that an urgent care-specific solution to the most common urgent care practice management challenges is not only feasible, but advisable. To solve the practice management challenges inherent in staffing urgent care clinics, retain qualified providers, improve patient flow, and increase customer satisfaction, the adoption of an ACP fellowship training programs is suggested. ■

“The success of any practice lies in outcomes, patient safety, provider recruitment, and patient satisfaction.”

Summary

- Advanced clinical practitioners (ACPs) are being utilized more in urgent care every day, with half of urgent care centers having an ACP as part of their staff.
- Incorporating ACPs into urgent care practices can ease the burden on physicians in the practice, improve provider staffing ratios, and generally ensure smoother operation during patient volume surges.
- Typically, newly hired ACPs are only provided a 30-day orientation program that is not designed to increase their medical knowledge, but rather to orient them to the electronic medical record, and to the clinic.
- Key goals of Carilion Clinic’s Advanced ACP Fellowship in Urgent Care and Rural Health include preparing all ACPs for varying levels of patient acuity they’re likely to see in urgent care, refining necessary procedural skills, and increasing ACPs’ breadth of knowledge through didactic training.

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ABSTRACTS IN URGENT CARE

- The Flu–MI Connection
- Airborne Flu Transmission
- CMS’s New Opioid Proposal
- FDA Weighs in on Kratom
- Bruising Patterns in Children Matter
- New Packaging for Loperamide
- A Better Way to ID Seizures?
- One Cigarette a Day Is Too Many

■ GLENN HARNETT, MD

Each month the College of Urgent Care Medicine (CUCM) provides a handful of abstracts from or related to urgent care practices or practitioners. Glenn Harnett, MD leads this effort.

Confirmed Flu Ups Short-Term Risk for MI

Key point: *Patients with laboratory-confirmed influenza are almost six times more likely to be admitted for acute myocardial infarction (MI) in the following 7 days.*

Citation: Kwong JC, Schwartz KL, Campitelli MA, et al. Acute myocardial infarction after laboratory-confirmed influenza infection. *N Engl J Med.* 2018;378(4):345-353.

Results of a cohort study published in the *New England Journal of Medicine* revealed that patients with laboratory-confirmed influenza were almost six times as likely to be admitted for acute myocardial infarction in the subsequent 7 days. They defined the risk interval as the first 7 days after respiratory specimen collection and the control interval as 1 year before and 1 year after the risk interval. They identified 364 hospitalizations for acute myocardial infarction that occurred within 1 year before and 1 year after a positive test result for influenza. Of these, 20 occurred during the risk interval and 344 occurred during the control interval. The incidence ratio of an admission for acute MI during the risk interval as compared with the control interval was 6.05 (95% CI, 3.86 to 9.50). No increased incidence was observed after day 7. Incidence ratios for acute myocardial infarction within 7 days after detection of influenza B, influenza A, respiratory syncytial virus, and other viruses were 10.11, 5.17, 3.51, and 2.77, respectively. This risk was even greater in older patients and was independent

of flu vaccination status or prior history of MI hospitalization. The authors noted that the increased MI risk regardless of vaccination status should not be seen as evidence that influenza vaccinations are ineffective, because the study wasn’t designed to explore that issue. The study also revealed that other forms of respiratory infection can raise the risk for MI admission. Urgent care providers must be aware that when a patient has laboratory-confirmed influenza, they are at much greater risk for an MI in the week following the diagnosis. ■

Data Confirm Airborne Flu Transmission

Key point: *Fine aerosol specimens from exhaled breath can carry influenza virus.*

Citation: Yan J, Grantham M, Pantelic J, et al. Infectious virus in exhaled breath of symptomatic seasonal influenza cases from a college community. *Proc Natl Acad Sci.* 2018;115(5):1081-1086.

Lack of human data on influenza virus aerosol shedding has previously fueled debate over the likelihood of its airborne transmission. This study enrolled 140 patients with a positive rapid flu test who presented within 3 days of symptom onset and provided 30-minute breath samples and nasopharyngeal swab specimens. Viral cultures were positive for infectious flu virus in 39% of breath samples and 89% of nasal swab specimens. Results revealed that coughing was common but not necessary for generating infectious virus in aerosols, sneezing rarely occurred during the breath-sample collection, and viral shedding in aerosols decreased as days since symptom onset increased. Surprisingly, sneezing did not appear to make an important contribution to influenza virus shedding in aerosols; rather, it was coughing that was determined to be the main culprit. The



Glenn Harnett, MD is principal of the No Resistance Consulting Group in Mountain Brook, AL; a board member of the College of Urgent Care Medicine and the Urgent Care Foundation; and sits on the JUCM editorial board.



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“[The FDA] suggests that Medicare Part D prescription drug plans monitor patients who take medications considered to be ‘potentiators’ of opioid misuse.”

researchers stated that their study “clearly establishes that a significant fraction of influenza cases routinely shed infectious virus, not merely detectable RNA, into aerosol particles small enough to remain suspended in air and present a risk for airborne transmission.” ■

CMS Looks Hard at Curbing Opioid Use

Key point: CMS proposes 7-day limit on initial opioid prescriptions.

Citation: Centers for Medicare & Medicaid Services. 2019 Medicare Advantage and Part D Advance Notice Part II and Draft Call Letter. Available at: <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Announcements-and-Documents.html>. Accessed February 11, 2018.

The Centers for Medicare & Medicaid Services (CMS) has proposed that beginning in 2019, initial opioid prescriptions for acute pain should be limited to 7 days. They noted that the growth of Medicare Part D spending on opioids increased 165% from 2006 to 2015. The agency has also suggested in the 2018 Draft Call Letter that Medicare Part D prescription drug plans monitor patients who take medications considered to be “potentiators” of opioid misuse (specifically relating to gabapentin and pregabalin). CMS is asking for public comment on whether it should more closely monitor patients who receive these prescriptions. The agency stated that “given the urgency and scope of the continuing national prescription opioid epidemic, we will propose new strategies to more effectively address this issue for patients in Part D.” Those strategies will include:

- Identifying high-risk patients who use gabapentin and pregabalin in combination with prescription opioids to ensure that plans provide appropriate case management
- Creating a new quality measure that would track how well Part D plans flag concurrent use of opioids and benzodiazepines
- Developing a pharmacy point-of-sale edit that prohibits dispensing of any prescription that is more than a 90 morphine mg equivalent, or a 7-day supply
- Implementing point-of-sale edits that flags duplicative therapy of multiple long-acting opioids

The proposal would exempt patients with cancer, in hospice, or in long-term care facilities from much of the strict oversight.

FDA: Kratom is an Opioid

Key point: The most common compounds in kratom share structural characteristics with opioids.

Citation: U.S. Food & Drug Administration. Statement from FDA Commissioner Scott Gottlieb, MD, on the agency’s scientific evidence on the presence of opioid compounds in kratom, underscoring its potential for abuse (February 6, 2018). Available at: <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm595622.htm>. Accessed February 11, 2018.

FDA scientists analyzed the chemical structures of the 25 most common compounds in kratom and concluded that all the compounds share structural characteristics with controlled opioid analgesics, such as morphine derivatives. They also found that compounds in kratom bind strongly to mu-opioid receptors, comparable to opioid drugs, and reported that kratom has now been linked to 44 deaths, up from 36 in November. FDA Commissioner Scott Gottlieb, MD, stated that the scientific data and adverse event reports have “clearly revealed” that the compounds in kratom make it “not just a plant—it’s an opioid...associated with novel risks because of the variability in how it’s being formulated, sold, and used recreationally by those who are seeking to self-medicate for pain or who use kratom to treat opioid withdrawal symptoms.” He said the claim that kratom is benign “because it’s ‘just a plant’ is shortsighted and dangerous.” The FDA also expressed concern about a number of other deaths in which kratom was combined with other drugs such as illicit drugs, prescription opioids, benzodiazepines, and over-the-counter medications, such as loperamide. Gottlieb concluded that “kratom should not be used to treat medical conditions, nor should it be used as an alternative to prescription opioids. There is no evidence to indicate that kratom is safe or effective for any medical use.” ■

More Clues When Looking at Bruising in Children

Key point: Key bruising distributions and characteristics can help clinicians distinguish between true and fabricated histories of injury in children.

Citation: Hibberd O, Nuttall D, Watson RE, et al. Childhood bruising distribution observed from eight mechanisms of unintentional injury. *Arch Dis Child*. 2017;102(12):1103-1109.

This prospective cross-sectional study summarized key bruising distributions and characteristics from 559 incidents involving eight specific unintentional injuries in children age ≤13 years. The study was undertaken to enhance understanding of detailed bruising characteristics associated with true accidental injury, to help clinicians better assess injury plausibility, and to identify false or fabricated trauma histories. It provides new, detailed

evidence of bruising characteristics in the context of the child's age and developmental capabilities. Previously published red flags regarding bruising characteristics from physical abuse were further validated by the absence or extremely low frequency of these type of findings in this cohort of patients with unintentional injuries. Among the 372 children examined who had bruising, all but seven were mobile, none had more than five bruises from a single incident, and the majority had only one bruise. Other important points regarding bruise counts included:

- Occurrence of three or more bruises from a single incident is uncommon. When present, the most common mechanisms were a stair fall involving multiple stairs, sports injury, or motor vehicle crash.
- More than five bruises from any stated cause brings into question the plausibility and veracity of the history for children who are otherwise healthy.
- When two or more bruises occurred, they were in the same body region or on the same side of the body.
- Bruises most often occurred to the front of the body over a bony area, such as the forehead or shin.
- There were only two incidents where bruising occurred to both the front and the back of the body from the same event.
- Patterned bruising was uncommon, as was petechial or clustered bruising.

Urgent care providers are encouraged to review this article in order to improve their recognition of bruising patterns from both unintentional and intentional injuries in children. ■

FDA Cites Safety Concerns in Ordering New Packaging for Loperamide

Key point: *FDA changes loperamide packaging due to continued reports of misuse and cardiac effects.*

Citation: FDA Drug Safety Communication: FDA limits packaging for anti-diarrhea medicine loperamide (Imodium) to encourage safe use. U.S. Food & Drug Administration. Available at: <https://www.fda.gov/Drugs/DrugSafety/ucm594232.htm>. Accessed February 11, 2018.

The FDA is working with drug manufacturers to change the packaging for the antidiarrheal loperamide (Imodium), as the agency continues to receive reports of cardiac problems and death in people using higher-than-recommended doses. The new packaging, which will consist of blister packs and other single-dose packaging, as well as limited number of doses in a package, aims to stem such misuse. In 2016, the FDA warned that high doses of loperamide can result in serious cardiac events, including QT interval prolongation, torsades de pointes, other ventricular arrhythmias, syncope, and cardiac arrest. The reported events tend to occur among people who are misusing the drug for its opioid effects. The FDA continues to advise clinicians to stop

“Recognizing when a tonic-clonic seizure is occurring may allow prompter medical attention during or shortly after the event.”

loperamide immediately if toxicity is suspected, counsel patients to use the drug only as directed, and note that interactions with common medications (such as clarithromycin) can increase the likelihood of adverse cardiac outcomes. This is despite the addition of a black box warning to the medicine label and a previous FDA communication. The agency noted that loperamide is a safe drug when used as directed. The maximum approved dose of loperamide for adults is 8 mg/day for over-the-counter loperamide and 16 mg/day for prescription use. ■

A New Way to Detect Seizures

Key point: *FDA clears first smart watch to detect seizures.*

Citation: Brooks M. FDA Clears First Smart Watch to Detect Seizures, Manage Epilepsy. Medscape. Available at: <https://www.medscape.com/viewarticle/892329>. Accessed February 11, 2018.

The Centers for Disease Control and Prevention estimates that about 3.4 million people in the United States have epilepsy, including 470,000 children. Recently, the Food and Drug Administration provided 510(k) clearance to market a smart watch designed for seizure tracking and epilepsy management. The smart watch manufactured by Empatica, called the Embrace, uses advanced machine learning to identify convulsive seizures and can send an alert via text and phone message to caregivers. It was tested in a clinical study involving 135 patients with epilepsy who were admitted to epilepsy monitoring units for continuous monitoring with video electroencephalography, while simultaneously wearing the device. Researchers collected 6,530 hours of data over 272 days, including 40 generalized tonic-clonic seizures. The device's algorithm detected 100% of the seizures, which were then confirmed by independent epilepsy experts. The device can also record sleep, rest, and physical activity data. The lead researcher noted that more than 3,000 Americans die each year from sudden unexpected death in epilepsy. By alerting family members and caretakers that a tonic-clonic seizure is occurring, the watch may allow prompter medical attention during or shortly after the event. ■

‘Cutting Back’ on Cigarettes Will Not Eliminate Risk

Key point: *Smoking just one cigarette a day carries substantial risks for stroke and coronary heart disease (CHD).*

Citation: Johnson KC. Just one cigarette a day seriously elevates cardiovascular risk. *BMJ*. 2018;360:k167.

The *British Medical Journal* published a meta-analysis in which researchers reviewed 141 prospective studies to analyze the association between smoking and coronary heart disease or stroke in millions of generally healthy people. Results revealed that smoking just one cigarette daily is associated with a “much greater than expected” increase in risk for CHD and stroke. Overall, as compared with never-smoking, smoking one cigarette daily conferred significantly increased risks for both CHD or stroke. Smoking just one cigarette a day was associated with a 48% to 74% increase in the risk of CHD in men, and a 57% to 119% increase in CHD risk for women. They also revealed an approximate 30% increase in the risk of stroke for both men and women. One cigarette a day accounted for 50% of the excess CHD risk in men compared with smoking 20 cigarettes (one pack) per day. In stroke, one cigarette a day accounted for about one third of the risk associated with smoking a pack a day.

“Data for counseling patients who smoke: Just one cigarette a day was associated with increased risk for CHD of up to 74% in men and up to 119% for women.”

Results based on the subset of studies that adjusted for multiple confounders such as hyperlipidemia and hypertension revealed that women who smoked one cigarette daily had a 119% increased risk for CHD and a 46% increased risk for stroke. Men who smoked one cigarette daily had a 74% increased risk for CHD and a 30% increased risk for stroke. In an editorial accompanying the article, the authors stated, “Only total cessation will protect people and populations from tobacco’s toxic legacy.... Any assumption that smoking less protects against heart disease or stroke has been dispelled this week.” ■



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A 38-year-old Man with Chest Pain

Urgent message: When a relatively young patient presents to urgent care with chest pain, there may or may not be a “typical” cause. Prompt evaluation and accurate assessment of risk factors are essential to efficient care and, often, the patient’s survival.

MAX PALATNIK, MD

Case Presentation

A 38-year-old male presented at 21:59 with a chief complaint of chest pain; at 22:03, we noted the following:

Temp: 98.9

Pulse: 103

Resp: 16

Syst: 122

Diast: 69

O2Sat: 99%

History of Present Illness (22:47) (Verbatim)

Pt. 38 year old male with a PMH of myocarditis and pericarditis in 1983 and 1991, who ate dinner at 6:30 and began feeling pressure across his anterior chest while watching TV at 7:30 PM. - it felt like “some was sitting on my chest”. Associated SOB and radiation into his shoulder and left hand “tingling”. He has had heartburn but this felt different. Took baking soda (which he normally takes for his heartburn) and this did not help. No syncope, nausea, vomiting, fever, RUQ pain or history of food intolerances. He did have some viral symptoms 2 weeks ago (nonproductive cough, sinus HA and PND which has all resolved.) No orthopnea, PND, relation of pain to exercise, chest trauma, pleuritic component

Past Medical History/Triage

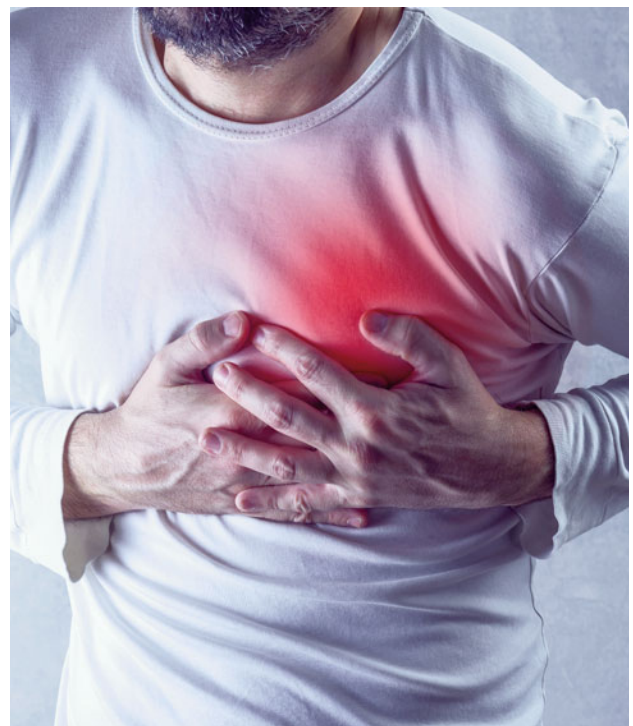
Medication, common allergies: None

PMH: Myocarditis/Pericarditis

PSH: None

SocHx: Non-smoker

FamHx: Positive for CAD with 52 year old sibling with MI, father CABG at 53



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Exam (22:52)

General: Well-appearing; well-nourished; in no apparent distress.

Head: Normocephalic; atraumatic.

Eyes: PERLA; EOM intact

ENT: TM's normal; normal nose; no rhinorrhea; Throat is red, and mild exudates.. Moist mucus membranes.

Neck: Supple; nontender; no cervical lymphadenopathy. No meningeal signs

Cardiovascular: Normal S1, S2; no murmurs, rubs, or

Max Palatnik, MD is an attending physician with East Carolina Emergency Physicians in Wilmington, NC. The author has no relevant financial relationships with any commercial interests.

Labs				
Test	Flag	Value	Units	Ref. Range
WBC		7.3	K/uL	4.6–10.2
HGB		13.9	G/DL	12.0–16.0
PLT		284	K/uL	142–424
NA		139	MMOL/L	135–144
K		4.3	MMOL/L	3.5–5.1
CL		97	MMOL/L	98–107
CO ₂		26	MMOL/L	22–29
BUN H		21	MG/DL	7–18
CREAT		1.1	MG/DL	0.6–1.3
TROPI		0.0	NG/ML	0.00–0.27

gallops. No reproducible chest wall tenderness

Respiratory: Normal chest excursion with respiration; breath sounds clear and equal bilaterally; no wheezes, rhonchi, or rales.

Abdomen: Normal bowel sounds; non-distended; non-tender; no palpable organomegaly.

Extremities: Normal ROM in all four extremities; non-tender to palpation; distal pulses are normal and equal.

Skin: Normal for age and race; warm; dry; good turgor; no apparent lesions or exudate

Progress Notes (23:12)

He received 2 baby aspirin and SL NTG with relief of chest discomfort. He then had 1 inch of Nitropaste placed. At 00:44 his pain returned and his ECG was repeated. He was given 15mg Maalox without improvement then ½ inch more NTP which did relieve the discomfort.

Results

EKG 1: Flattened T waves inferior and in V2-V6.

EKG 2: No changes

CXR: Negative

Diagnosis (01:57)

Chest pain, history of myocarditis

Disposition (02:02)

The patient was admitted to the hospital under telemetry.

Hospital Course

Pt. underwent serial enzymes and repeat ECG in the morning. He ruled out for MI and was released. A subsequent stress ECHO was negative after exercising for 12.5 minutes with no chest discomfort or ECG changes.

“Evaluation of chest pain is a tremendous challenge, largely due to the broad differential diagnosis, but also because of the risk associated with misdiagnosis.”

Second Visit

- The patient followed up with his PCP, was diagnosed with GERD, and was started on a PPI.
- The patient returned to the ED 6 weeks later with chest tightness and dyspnea in the setting of a meal. His symptoms were worsened by exertion, occur at rest, and are improved by upright positioning as well as with Prilosec.
- No associated fever, cough, radiation, diaphoresis, calf pain, peripheral edema.
- The patient has normal vital signs, with an unremarkable, appropriate examination.
- EKG reveals TWI in aVL, as well as new q waves in V1-V2 and NSST changes.
- CXR is negative.
- Labs show a troponin that is >20 times the upper limit of normal.
- The patient receives aspirin, heparin, Plavix, nitroglycerin and is admitted for acute coronary syndrome.
- The patient undergoes percutaneous coronary intervention (PCI) with successful stent placement and is subsequently discharged in good condition.

Discussion

Chest pain is the presenting complaint for more than 5% of the patients in emergency departments (EDs) in the United States. The evaluation of the patient with chest pain is a tremendous challenge, largely due to the broad differential diagnosis, but also because of the risk associated with misdiagnosis. Among the most rapidly fatal conditions in emergency medicine—many of which

may present initially to urgent care—are acute coronary syndrome (myocardial ischemia and infarction), aortic dissection, pulmonary embolism, pericarditis with cardiac tamponade, myocarditis, tension pneumothorax, and esophageal rupture. All of these conditions tend to manifest with chest pain, and they all should be considered early in the evaluation of the patient with chest pain.

It is the responsibility of the physician to evaluate these patients with the list of potential life-threats at the top of the differential diagnosis. A detailed history, physical examination (with focus on cardiac, pulmonary, and vascular examinations), and basic testing information (eg, electrocardiogram, chest radiograph) can often rapidly rule out these life threats with reasonable accuracy. However, in cases where this initial rapid assessment fails to rule out one of the deadly diagnoses, further workup in a higher-acuity setting may be warranted.

Although typical symptoms of ACS are described as a gradual onset of aching or pressure pain in the chest with radiation to the left arm, neck or jaw, in truth the atypical may be more “typical.” In a large data synthesis, the most helpful historical features that increased the likelihood of acute myocardial infarction were radiation to the right arm or shoulder, radiation to both arms, pain that worsened with exertion, diaphoresis, and nausea or vomiting.¹ Certain subsets, including women, diabetics, and elderly are more likely to have anginal symptoms that are represented by dyspnea, vomiting, diaphoresis, generalized weakness; some may have painless presentations.² Even in those patients with atypical symptoms such as pleuritic pain or palpable tenderness in the chest wall, the posttest likelihood is only sufficiently lowered in those who are already low risk.¹ Enumeration of historical cardiac risk factor burden is of little prognostic value, especially in patients older than 40 years old.³

Age

Young patients (<45 years-old) represent a group at high risk for misdiagnosis of ACS, primarily because of a ten-

Components of the Chest Pain History for the Diagnosis of Acute Myocardial Infarction

Pain Descriptor	Reference	Patients (#)	Positive Likelihood Ratio (95% CI)
<i>Increased likelihood of MI</i>			
Radiation to right arm or shoulder	29	770	4.7 (1.9-12)
Radiation to both arms or shoulders	14	893	4.1 (2.5-6.5)
Associated with exertion	14	893	2.4 (1.5-3.8)
Radiation to left arm	24	278	2.3 (1.7-3.1)
Associated with diaphoresis	24	8,426	2.0 (1.9-2.2)
Associated with nausea or vomiting	24	970	1.9 (1.7-2.3)
Worse than previous angina or similar to previous MI	29	7,734	1.8 (1.6-2.0)
Described as “pressure”	29	11,504	1.3 (1.2-1.5)
<i>Decreased likelihood of AMI</i>			
Described as “pleuritic”	29	8,822	0.2 (0.1-0.3)
Described as positional	29	8,330	0.3 (0.2-0.5)
Described as sharp	29	1,088	0.3 (0.2-0.5)
Reproducible with palpation	29	8,822	0.3 (0.2-0.4)
Inframammary location	31	903	0.8 (0.7-0.9)
Not associated with exertion	14	893	0.8 (0.6-0.9)
Adapted from Swap CJ, et al. JAMA. 2005;294:2623-2629.			

dency on the part of physicians to underestimate cardiac risk. Up to 10% of myocardial infarctions in the U.S. occur in patients <45 years of age, the majority of which are related to atherosclerotic heart disease. Atherosclerotic disease was noted in 17% of teenagers in one study,⁴ and multivessel disease noted in 20% of young adults (average age: 26 years) in an autopsy study of victims of inner city violence.⁵ A recent ED study found that 5.4% of patients 24-39-years-old presenting with chest pain ruled in for ACS, and 2.2% had an adverse cardiac event (ie, death, MI, need for percutaneous coronary intervention or cardiac bypass surgery) within 30 days.⁶ Although the overall incidence of ACS is lower in young patients, physicians should not discount a concerning HPI based purely on a patient's age.

Diabetes mellitus

Diabetes mellitus (DM) represents another high-risk condition in terms of potential for misdiagnosis of ACS. Patients with DM are prone to painless presentations when they have cardiac ischemia. Atypical presentations (eg, dyspnea,

confusion, emesis, fatigue) occur in up to 40% of cases. Diabetic patients are also more likely to have adverse outcomes from ACS.⁷ Treating physicians must therefore not rely on typical presenting complaints to initiate a cardiac workup in diabetic patients, nor should they rely on positive cardiac biomarkers to prompt an aggressive approach to treatment in these patients.

Cocaine

Cocaine use must be considered an additional independent risk factor for atherosclerotic heart disease and MI, especially in young patients. Some authors estimate that cocaine accounts for up to 25% of acute MIs in patients <45 years.⁷ Acute use of cocaine can induce coronary vasoconstriction, increased platelet aggregation, and/or adrenergic stimulation leading to dysrhythmias and ischemia. Chronic use of cocaine is associated with MI, as well, causing markedly accelerated atherogenesis and subsequent early MI. Overall, cocaine users have a seven-fold increased risk of MI.⁸

Systemic lupus erythematosus

Systemic lupus erythematosus (SLE) is a significant but underappreciated risk factor for early atherosclerosis and myocardial infarction. Young patients with SLE are estimated to have a nine-fold increased risk of early MI.⁹ Women <45 years, in particular, are at increased risk, with estimates of increased risk of early MI as high as fifty-fold.¹⁰ The cause of premature atherosclerosis in SLE is likely multifactorial, but largely related to coexisting systemic inflammation and dyslipidemias.

Human immunodeficiency virus

Human immunodeficiency virus (HIV) infection has been identified as an independent risk factor for premature atherosclerosis, as well. Evidence suggests that HIV infection causes endothelial injury to coronary vessels, initiating an inflammatory cascade leading to atherosclerotic lesions.¹¹ The finding of premature atherosclerosis is especially prominent in patients with later stages of HIV infection (CD4 count ≤ 200).¹² The medication regimens that are currently used in treating HIV (protease inhibitors) also exacerbate the risk of early atherosclerosis. Overall,

“The decision to pursue a ‘full cardiac workup’ should primarily be based on a thorough HPI. Young patients deserve special consideration, as their risk is often underappreciated.”

HIV patients with ACS present at an age that is more than 10 years younger than non-HIV patients.¹³

Chronic renal disease

Chronic renal disease (CRD) has also recently been identified as an independent risk factor for accelerated atherosclerosis. CRD is associated with chronic inflammation¹⁴ and increased platelet aggregation.¹⁵

These factors, combined with an increased prevalence of concomitant conventional risk factors, produce a disproportionately

high risk of cardiac events in these patients.¹⁴

Though it should be obtained and evaluated within 10 minutes of presentation concerning for cardiac ischemia, the ECG should *not* be used to rule out ACS. Up to 50% of patients with cardiac ischemia or infarction will have a nonspecific or normal ECG.¹⁶ Serial ECGs can increase the diagnostic yield at confirming the presence of ACS in patients with ongoing symptoms.

Much like the ECG, cardiac biomarkers are useful when they are positive, but have limited utility when they are normal. Serial biomarker testing over the course of 3–6 hours has become a routine protocol in many EDs and has excellent sensitivity at detecting evidence of MI. However, biomarkers cannot be relied upon to rule out cardiac ischemia. Prospective validation of the “HEART” score has afforded practitioners the ability to reliably differentiate a subset of low-risk patients that would likely not benefit from additional testing.¹⁷

Stress testing and coronary angiography are being used more commonly early in the evaluation of patients with chest pain to rule in ACS. Although a negative stress test or angiogram is associated with a *lower* risk of underlying CAD, neither test can definitively *rule out* ACS or the presence of significant underlying coronary thromboses. The majority of stress testing modalities detect evidence of significant coronary lesions with only 85% to 95% sensitivities.^{18–19} Coronary angiography is also an imperfect test; false negative angiography interpretations are not uncommon in the presence of diffuse disease, eccentric plaques, “flush” occlusions, branch ostial lesions, overlapping side branches, and even when lesions are present within the left main coronary artery.²⁰ Further compromising the reliability of these

tests are data indicating that the majority of MIs occur from occlusions within arteries that were previously <50% obstructed before the infarct occurred.²¹⁻²³

These types of lesions are usually associated with negative stress tests or “nonsignificant” angiograms if the tests are done prior to infarct. By their nature of detecting fixed coronary stenosis, stress tests are unable to evaluate for or predict vulnerable coronary plaques which are at risk for becoming dislodged, leading to an acute coronary event. In one study of patients being evaluated for ACS who had a negative stress test in the prior 3 years, over 20% reached the composite index of AMI, positive stress test, CABG or catheterization with intervention, with the vast majority of negative testing occurring within 1 year of presentation.²⁴ Similarly, on even more invasive testing men and women with either normal or “minimal” CAD on heart catheterization (1.2% and 3.3%, respectively) had either AMI or death within 1 year of follow-up.²⁵ It is vital that the clinician does not rely on prior objective testing in the face of a patient with signs and symptoms indicative of ACS.

Conclusion

The evaluation of chest pain and possible ACS is a high-risk endeavor. The decision to pursue a “full cardiac workup” should primarily be based on a thorough HPI. Physicians should be aware of the frequency of atypical presentations, especially in women, elderly, and diabetic patients. Young patients also deserve special consideration, as their risk is often underappreciated. Additional nontraditional cardiac risk factors, including cocaine, systemic lupus erythematosus, human immunodeficiency virus, and chronic renal disease warrant extra attention. Diagnostic testing consists of electrocardiography (helpful to rule in ACS, but not to rule out the diagnosis) and cardiac biomarker testing, which are also primarily useful when positive. Importantly, the negative stress test or angiogram is very helpful at stratifying patients to a low risk of ACS and CAD, but they do not definitively *rule out* the diagnosis. ■

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Summary

- Female, diabetic, and elderly patients are more likely to have anginal symptoms represented by dyspnea, vomiting, diaphoresis, or generalized weakness.
- Acute coronary syndrome (myocardial ischemia and infarction), aortic dissection, pulmonary embolism, pericarditis with cardiac tamponade, myocarditis, tension pneumothorax, and esophageal rupture—some of which could present to urgent care, initially—may be the most rapidly fatal conditions associated with chest pain.
- Human immunodeficiency virus has recently been confirmed to be an independent risk factor for premature atherosclerosis, possibly owing to endothelial injury to coronary vessels, initiating an inflammatory cascade that leads ultimately atherosclerotic lesions.
- ECG and cardiac biomarkers may be useful in confirming the presence of ACS in patients with ongoing symptoms, but not in ruling it out.

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Misunderstanding Occupational Medicine Services ‘Protocols’

■ ALAN A. AYERS, MBA, MAcc

Urgent message: Urgent care owners should be aware of the misuse of the term “protocol” and the scope of employers’ directions concerning the processing of employees in their centers. In addition, urgent care owners need to be diligent when they believe that one of their clients is attempting to override the course of medical treatment for an employee.

The discipline of occupational medicine (or occupational health) is focused on the treatment of work-related injuries and illnesses. The term generally refers to workers compensation injury care, preventive and compliance services, and health and wellness in which the client is an employer.

As a part of this, it’s common parlance for urgent care providers to call the instructions from employers in administering occupational medicine services “protocols.” For example, a quick review of several urgent care facility websites shows these statements:

- “We’ll work with you to develop a custom plan that meets your *business’s unique needs, protocols & preferences.*”
- “We develop *individualized protocols* for each company and design our services to meet your needs.”
- “Our knowledgeable staff understands the nuances of workers’ compensation and how to follow *employer-specific protocols.*”
- “Utilizing the most up to date *occupational medicine protocols*, our providers will have your employees ready to work quickly and safely....”

Only one of these five healthcare providers is using the term *protocol* correctly. Do you know which one?

Occupational medicine physicians frequently work directly

with employers in an effort to support the operation of the company and to keep workers safe and healthy on the job.¹ Often, urgent care centers will offer these services.

However, urgent care providers should eschew the use of the term *protocol*. As this article will detail, there are numerous occupational medicine and urgent care providers who continue to use this *inaccurate, illegal, and antiquated term* to describe the instructions for servicing an account—rather than for the medical treatment of patients. As such, the incorrect use of protocols has caused at least one healthcare provider to pay a significant price in the form a multimillion-dollar class action settlement.

Urgent Care Centers That Provide Occupational Medicine Services Beware

An occupational medicine service provider typically works closely with a corporate client to provide of a host of services that may include drug screening (for safety or regulatory compliance), routine physicals (fitness for duty or regulated positions such as police, fire, haz-mat, and transportation), and treatment of workers compensation injuries. All of these services and others can be performed in the urgent care setting.²

When an urgent care company signs an agreement with a new employer account, it will receive instructions from the employer on how to handle that company’s employees who visit the urgent care center seeking services. In many instances, these instructions are called a “protocol.”

These instructions can include the specific components required of a physical, the number and types of panels to be tested on a drug screen, and if and what type of modified duty (light duty) is acceptable. In addition, as a part of their so-called protocol, an employer will dictate the authorization required for a referral, the number of pre-authorized visits, and the recipients of notification, such as an HR generalist, a third-party program administrator, or a nurse case manager for test results and determinations of return-to-work status.

When an injured employee visits the urgent care center with



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an employer authorization for services, the urgent care staff will consult the protocol to verify which services are allowed and should be provided.

The Definition of the Term *Protocol*

According to the dictionary, *protocol* is defined as “a detailed plan of a scientific or medical experiment, treatment, or procedure” or “a detailed written set of instructions to guide the care of a patient or to assist the practitioner in the performance of a procedure.”³

However, the term does not carry the same meaning within occupational medicine. The term is being used in occupational medicine as instructions to the healthcare provider for *processing* the employer’s account.

Although this appears to be a “company town” system (meaning a community where all stores and housing are owned by the one company which is also the main employer),⁴ it’s really the occupational medicine physician—not the written instructions, the protocol, or the employer—who has ultimate

“The occupational medicine physician—not the written instructions, the protocol, or the employer—has ultimate professional discretion and liability over the outcomes of the patient’s treatment.”

professional discretion and liability over the outcomes of the patient’s treatment. Only a physician can determine whether an employee is capable of working due to physical condition or injury. And only a physician can determine the causation of an injury within the scope of employment.

In an ideal environment, the protocol should drive the patient’s



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flow through the center. Some occupational medicine providers structure their protocols as flow sheets and refrain from using the term *protocol* when referring to the process. It's this flow sheet, or service package, that's designed by the employer for the employee's care. Again, a protocol, in contrast, is a medical treatment plan that's the responsibility of the physician.

Why Is This Important?

Urgent care owners should heed the results of a 2009 class action suit representing 7,000 Walmart employees against Concentra in Colorado. Judge Robert Blackburn in the U.S. District Court for Colorado ruled that the presence of "protocols" in Concentra's service model amounted to employer direction of a physician's care—which is illegal, as it violates laws that require a medical professional to treat workers compensation injuries without interference from the employer.⁵

The lawsuit alleged that Walmart engaged a subsidiary to control the treatment for employees with workplace injuries. The retailer sent the injured workers to clinics run by Concentra. The class action lawsuit, which covered current and former Walmart employees in Colorado, alleged that Walmart, Concentra, and insurer American Home Assurance Company (an AIG company) conspired to "violate a Colorado workers compensation law that bars companies from dictating medical care for workers hurt on the job."

Court documents revealed that Walmart provided Concentra with "protocol notes" before appointments with employees.⁵ For example, the protocol notes required the physician to obtain preauthorization from the Walmart subsidiary for referrals to other treatment providers (eg, specialists) in direct violation of Colorado law. These protocol notes also dictated, restricted, and/or withheld treatment by:

- Dictating how often a physician could treat injured Walmart workers
- Requiring the authorized treating physician (ATP) to notify Walmart if the ATP determined that it was necessary for the injured employee to miss work
- Prohibiting the ATP from prescribing any chiropractic treatment
- Prohibiting the ATP from prescribing limited work schedules (eg, light duty)
- Requiring the ATP to obtain approval from Walmart's adjusters before prescribing more than five visits to a physical therapist or an occupational therapist
- Prohibiting the ATP from prescribing health club memberships
- Directing the ATPs to only write prescriptions to Walmart pharmacies

In addition, the employees showed that despite the fact that two administrative law judges and the Industrial Claims Appeals Office determined that Walmart's protocol notes unlawfully

dictated treatment in violation of state law, Walmart continued to treat its injured employees subject to the protocol notes.⁵

The class action settlement was approved by the judge, and Wal-Mart Stores and Claims Management Inc. (its adjuster) paid \$4 million. Plus, Concentra Health Services in Colorado, through its insurer, paid an additional \$4 million. As part of the settlement, healthcare provider Concentra was required to provide training to its marketing and sales force on state laws that prohibit outside interference in how care is provided.

"The health, safety, and wellbeing of our associates are important to Walmart," said spokesman Randy Hargrove after the settlement was announced in 2012. "It is up to the doctors to determine the best course of treatment for each person."⁶

Concentra, one of the nation's largest providers of occupational medical services, no longer refers to the processing instructions as "protocols," but instead calls them "service packages."⁷

Interestingly, this issue has arisen several times in Alabama, where courts have held that the employer may not limit the scope of the employee's treatment by refusing to pay for reasonably necessary medical treatment recommended by the physician or agreeing to pay only for certain procedures.⁸⁻¹⁰

Conclusion

Urgent care owners should be aware of the misuse of the term *protocol* and the scope of employers' directions concerning the processing of employees in their centers. In addition, urgent care owners need to be diligent when they believe one of their clients is attempting to override the course of medical treatment for an employee.

Urgent care owners, other healthcare providers, and employers could face similar legal action in other states that, like Colorado, prohibit companies from dictating injured workers' care. ■

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

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

A 35-Year-Old Man with Chest Pain



Figure 1.

Case

The patient is a 35-year-old male who presents with chest pain, which he reports started after he was hit in the chest with an errant pass during his son's basketball practice.

View the image taken (**Figure 1**) and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

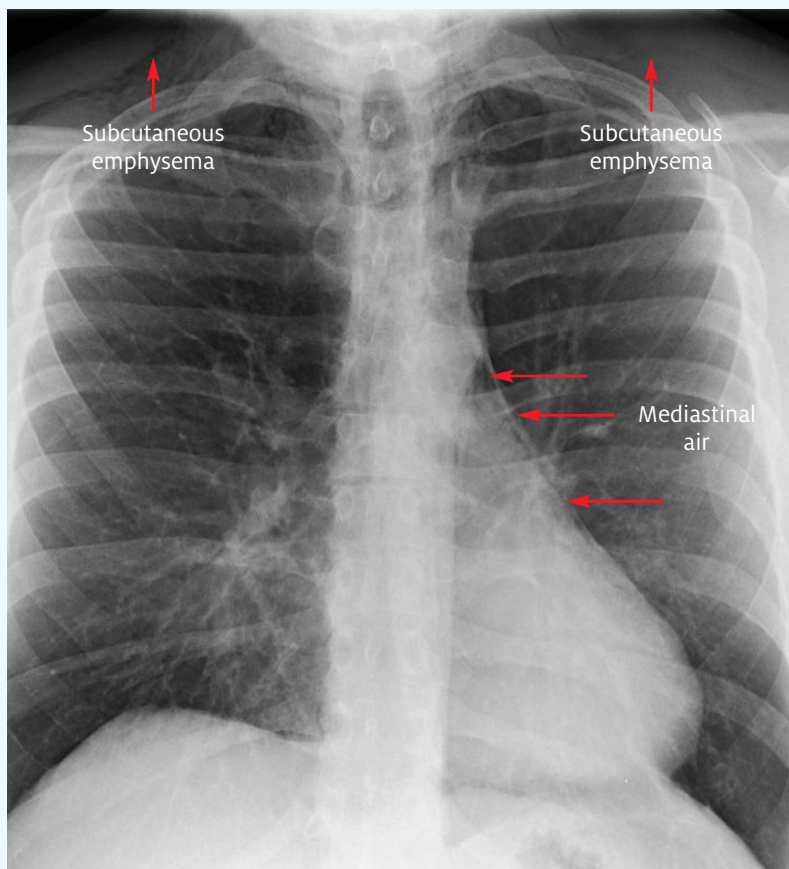


Figure 2.

Differential Diagnosis

- Rib fracture
- Pneumothorax
- Pulmonary contusion
- Subcutaneous emphysema
- Tracheobronchial laceration

Diagnosis

The patient was diagnosed with subcutaneous emphysema.

Learnings

- Subcutaneous emphysema occurs when air or gas is trapped in the subcutaneous layer of the skin
- Blunt or penetrating trauma is the most typical cause of subcutaneous emphysema

- Other potential precedents include ruptured esophagus, bronchial tube, or a malformed lung
- Common symptoms of subcutaneous emphysema include inflammation in the neck area, chest pain (as in this patient), neck pain, difficulty swallowing, wheezing, and breathlessness

Pearls for Urgent Care Management and Consideration for Transfer

- Streaky lucency in soft tissues at the base of the neck represents air in the subcutaneous tissues
- Clinically, spontaneous emphysema is felt as crepitus and, if extensive, may cause soft tissue swelling and discomfort
- Gas can arise from internal sources, external trauma, or gas-forming organisms. In this case, it arose from pneumomediastinum (also visible on this image)



A 60-Year-Old Man with a 2-Year History of Dizziness

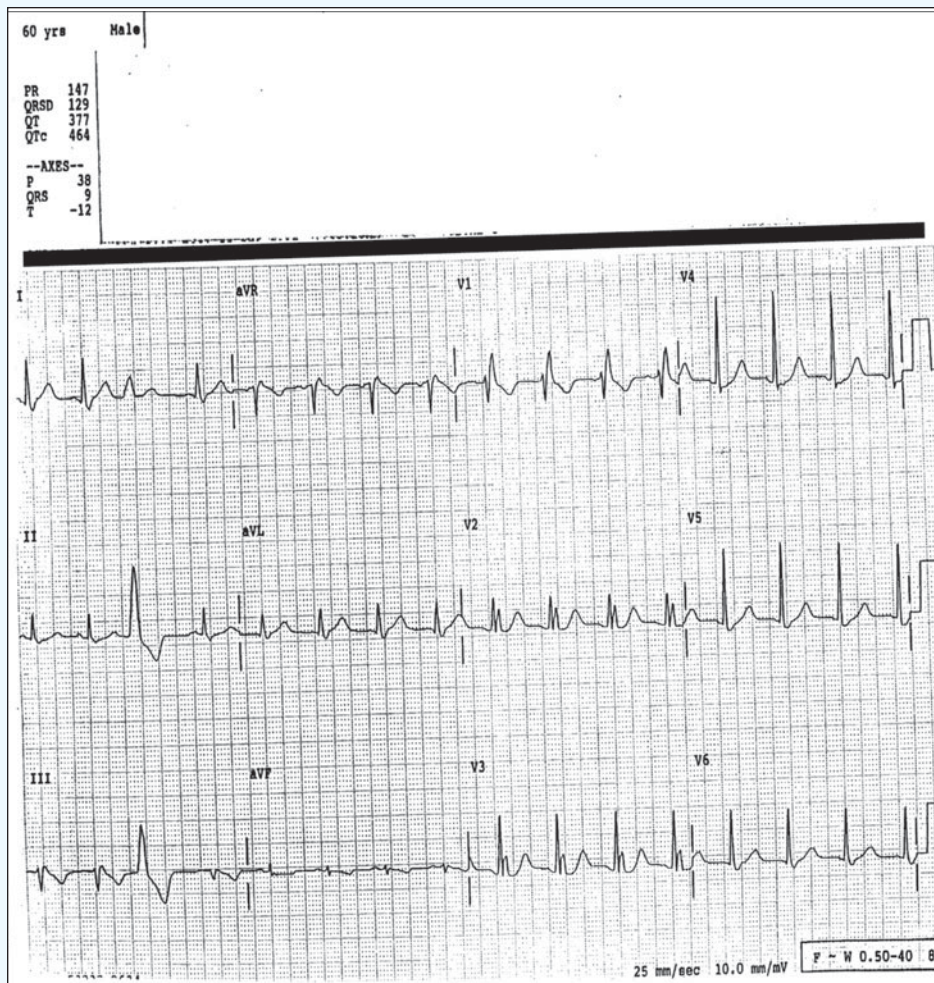


Figure 1.

Case

The patient is a 60-year-old man with a 2-year history of dizziness. He denies chest pain, shortness of breath, diaphoresis, vomiting/diarrhea, or fever.

Upon exam, you find:

General: Alert and oriented

Lungs: CTAB

Cardiovascular: RRR without murmur, rub, or gallop, occasional irregular beats

Abdomen: Soft and NT without r/t/g

View the ECG taken (**Figure 1**) and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

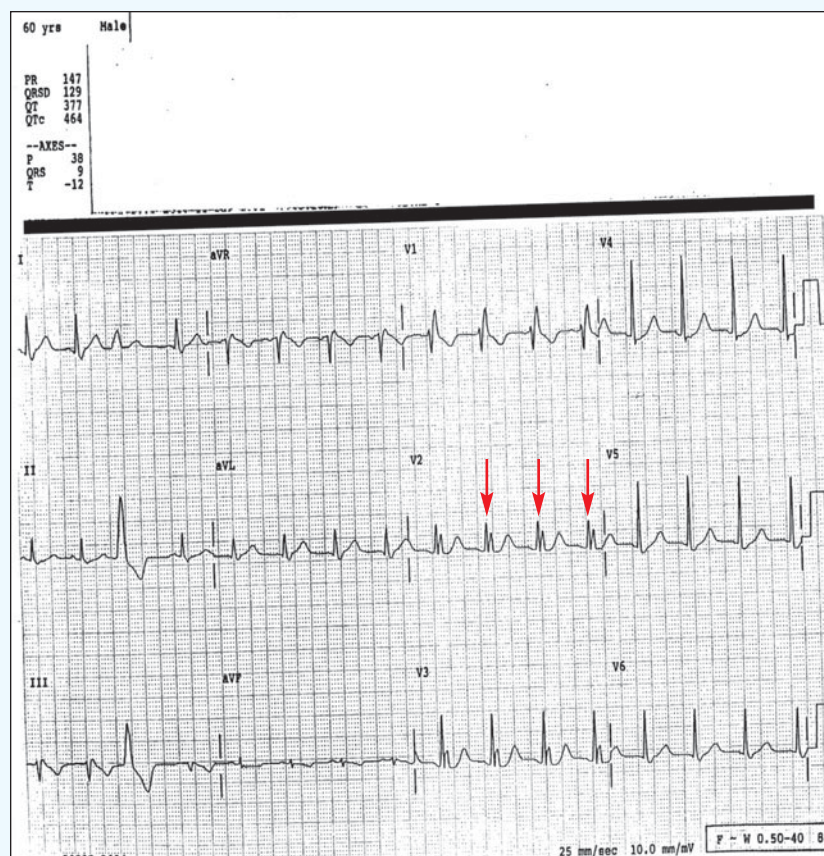


Figure 2.

Differential Diagnosis

- Brugada syndrome
- Hyperkalemia
- Left bundle branch block
- Right bundle branch block
- Wolff-Parkinson-White

Diagnosis

This patient has right bundle branch block. The ECG reveals normal sinus rhythm with a prolonged QRS complex (normal is 80-120 ms) and an RSR' in the right-sided precordial leads (V1-3), consistent with right bundle branch block (RBBB). There is one PVC.

Learnings/what to look for:

- An RBBB occurs as depolarization is delayed when progressing from the left ventricle across the septum to the right ventricle. The initial part of the depolarization is the left ventricle and the subsequent is the right ventricle

- The ECG changes include a widened QRS complex (>120ms), RSR' in the right precordial leads (V1-3), and a wide and slurred S wave in the lateral leads (I, aVL, V5-6)
- Causes include idiopathic degeneration of the right bundle branch, right ventricular hypertrophy, ischemia, myocarditis, pulmonary embolus, and cardiomyopathy

Pearls for Initial Management and Considerations for Transfer

- Compare with a previous ECG, if available
- If there is concurrent concern for more serious disease such as ischemia or pulmonary embolism, then emergent transfer is indicated
- An incidental finding is common and does not typically require further investigation unless there are concerning clinical features



A 42-Year-Old Man with Skin Petechia and Palpable Purpura on His Legs

Figure 1.



Case

The patient is a 43-year-old man who presents to urgent care with widespread skin petechia and palpable purpura on his legs. He reports these symptoms occurred around 2 weeks after he recovered from an upper respiratory tract infection. In addition, he's experienced fever, diarrhea, and vomiting. He mentions pain in his scrotum, as well.

View the photo (**Figure 1**) and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

Figure 2.

**Differential Diagnosis**

- Acute meningococcemia
- Cryoglobulinemia
- Henoch-Schönlein purpura
- Leukocytoclastic vasculitis

Diagnosis

This patient has immunoglobulin A vasculitis (IgAV, formerly known as Henoch-Schönlein purpura), a necrotizing small-vessel vasculitis of unknown etiology that actually occurs more often in children than in adults. When it does occur in adults, it is seen more frequently in males, white individuals, and those of Asian descent.

Learnings

- IgAV is often characterized by palpable purpura, abdominal pain, arthritis, and hematuria. Adults are more likely to have joint symptoms and renal dysfunction; fever and abdominal pain is most common in children

- Renal involvement, if present, is usually self-limited. Risk of renal failure is higher in adult patients
- IgAV is sometimes preceded by an upper respiratory infection
- Episodes can be expected to last from 3 to 6 weeks

Pearls for Urgent Care Management and Considerations for Transfer

- Most cases of IgAV will resolve spontaneously; as such, treatment is symptomatic
- Patients should be advised to drink more fluids, get bed rest, and elevate affected areas if lower extremities are involved
- Use of steroids and/or immunosuppressors is controversial, but may be considered with severe gastrointestinal or renal manifestations



Turning Patient Accounts Over to a Collection Agency—the Right Way

■ DAVID E. STERN, MD, CPC

Q. Should patient accounts ever get turned over to a collection agency?

A. The altruistic nature of running an urgent care center—to serve the public—can make it difficult to send patient accounts to collection, but it must be done if you want your center to survive. Some urgent care centers choose to leave patient balances in their billing systems indefinitely, but this puts a serious burden on the business by creating additional statement costs, wreaking havoc on financial reports, and inflating a center's days in A/R. It also damages an urgent care center's reputation. If patients know they can continue to be seen at your center without having to pay for your services, it may become known as the “free clinic” in the community. ■

Q. When should my urgent care center turn a patient account over to a collection agency?

A. Best practice is to send one or two statements to the patient. If the patient does not make any payments, then it makes sense to contact the patient by phone. Once you assess the accounts, find that the balances are valid, and have done everything you can within reason to collect the debt, the best practice is to send the patient account to collection 60–75 days from the date the balance became patient responsibility. Having a strong financial policy and staff training at all levels of your organization will minimize the number of patient accounts you need to turn over to collection. A good financial policy starts at the front desk of your urgent care center and should include the following steps:

- Verify insurance eligibility up front so if patients do not have valid insurance, you can treat them as self-pay and attempt to collect the balance in full based on whatever

“No one gets a pass when it comes to these kinds of conversations, so it's best to prepare your staff as best as you can.”

your self-pay rate is. If they do have insurance, collect any applicable copays and deductibles up front.

- If a patient has a balance from a previous visit, collect that balance before you render any new services.
- If allowed in the state in which you're located, add the collection agency cost to the service and have the patient sign off that they understand they'll pay this additional fee if the balance goes to collection. For example, if your collection agency is charging 35%, the patient should sign a document that states that if the balance goes to collection, they will be responsible for paying the additional fee. Confirm this is not prohibited in your state first, however.

We also recommend that you utilize credit card preauthorization. This may be available through your practice management (PM) software. This technology allows patients to grant you permission to charge their credit card when a balance becomes patient responsibility. This will decrease your days in A/R, increase your revenue, and typically reduce your bad-debt turnover because you are not waiting (and hoping) for the patient to decide to prioritize your statement.

All staff should be trained on how to have financial discussions with patients, from the front desk to clinicians. A patient might tell the medical assistant while in the exam room, “Hey, I have a question about my bill.” Or, a patient might run into a clinician at the grocery store and want to talk about their bill. No one in the healthcare industry gets a “free pass” when it comes to these kinds of conversations, so it's best to prepare your staff as best as you can.

Ultimately, your focus should be on having a clear internal collection process, starting at your front desk. This will reduce



David E. Stern, MD, CPC, is a certified professional coder and is board-certified in internal medicine. He was a director on the founding board of UCAOA and has received the organization's Lifetime Membership Award. He is CEO of Practice Velocity, LLC (www.practicevelocity.com), NMN Consultants (www.urgentcareconsultants.com), and PV Billing (www.practicevelocity.com/urgent-care-billing/), providers of software, billing, and urgent care consulting services. Dr. Stern welcomes your questions about urgent care in general and about coding issues in particular.

“Mishandling collections can lead to liability issues, so it is important to minimize the need to deal with a collection agency.”

the number of patient balances you send to the collection agency, which is better for both you and your patients. Patients are embarrassed to deal with collection agencies. Even after a balance has gone to collection, patients will often submit the payment directly to the urgent care center, which puts the responsibility on you to contact the collection agency to report the payment so they can take their fee, update their records, and stop billing the patient. There is a potential for liability issues if you mishandle the collection process, so it is important to minimize the need to deal with a collection agency. ■

Q. How do I protect my urgent care center from liability when working with a collection agency?

A. The collection agency you partner with represents your urgent care center, so choose an agency that is ethical, is very familiar with state and federal guidelines, and abides by the Fair Debt Collection Practices Act (FDCPA) to the letter. You should have a detailed process for how you track the accounts that are sent to the collection agency. That process should include:

- Verification of the patient accounts that need to go to collection
- Verification that all of the balances are accurate before they are sent to collection
- A way to flag those patient accounts in your system so your front desk staff knows to collect on their balances, should those patients return to your urgent care center
- A way to confirm the collection agency uploaded those patient accounts into their system, such as an acknowledgement report that you can reconcile with your system
- Regular updates from the collection agency on the status of patient accounts and reports on overall collection ■

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Focusing on the Growth—and Healthcare Savings—of Urgent Care

We all know urgent care has been growing steadily, nearly since its inception. Hard data on the size of the marketplace can be hard to come by, though, as different sources apply varying definitions of what exactly constitutes an urgent care center.

Similarly, we know proper utilization of urgent care services has tremendous potential to lower healthcare costs compared with visits to the emergency room. Again, though, the details can be hard to put a proverbial finger on in the Big Data picture.

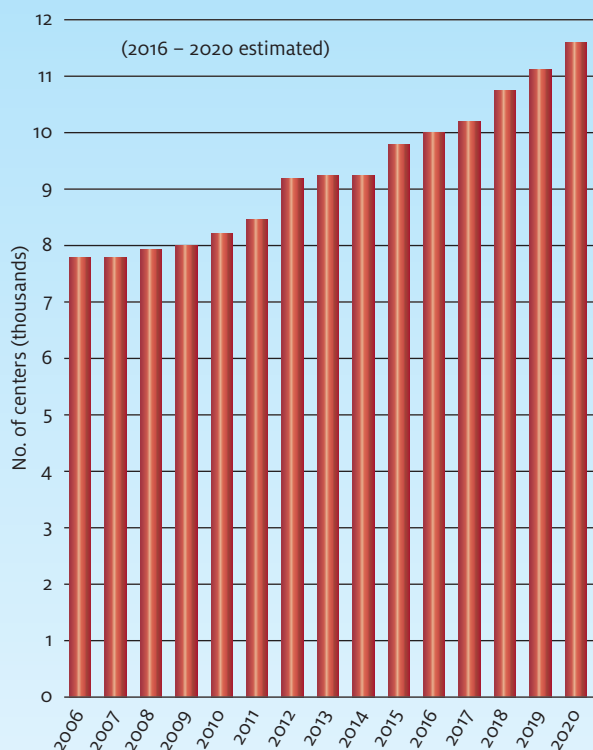
CBInsights tries to shed some light on both issues in a new research briefing called the Consumerization of Healthcare,

which observes that “urgent care has taken off by finding a sweet spot between the long wait times of a traditional primary care clinic and the expense of the emergency department.” It attributes urgent care’s popularity to patient demand, convenience of care, and efforts by payers to steer patients with non-emergent complaints away from more expensive ED visits. Perhaps best of all for urgent care stakeholders, the report predicts continued growth through at least 2020.

The data below may be helpful with your own negotiations with payers or potential occupational medicine customers. ■

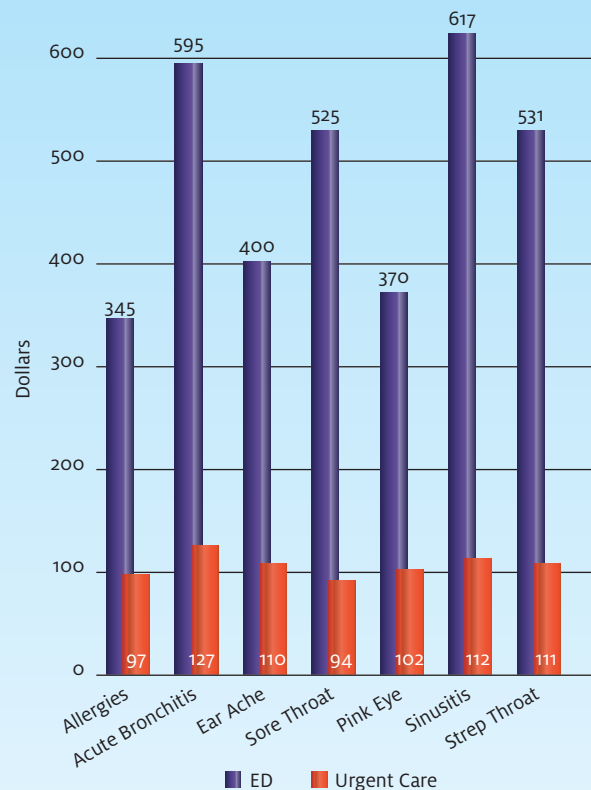
URGENT CARE MARKET GROWTH AND COST SAVINGS

Urgent Care Market Growth



Source: CBInsights

Cost of Urgent Care vs the ED



Source: CBInsights

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