Acute Compartment Syndrome—An Urgent Care Review

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LETTER FROM THE EDITOR-IN-CHIEF

Patient Satisfaction: A Collaborative Approach

Patient satisfaction surveys have driven a contentious wedge between management and clinical teams. While management is tasked with ensuring the practice is addressing patient needs and evolving consumer demands, providers are far more concerned with doing the right thing clinically (satisfaction be damned). However, with patient expectations changing, access to care improving, and practice economics eroding, we have to find a way to bridge this issue or we will quickly find ourselves locked in counterproductive bickering while others run off with our patients.

Remember, the aging urgent care value proposition of “access” is becoming obsolete. To succeed in urgent care 2.0, we have to effectively address a consumer need, or risk a seismic blow to the viability of our practices.

As a manager and a physician, I can certainly see both sides. While it’s tempting to defer to provider discretion, too often that means dismissing negative feedback. Why? Because it is simply too “human” to rationalize our behavior to protect our egos from embarrassing criticism. I hear these explanations—err, excuses—all the time. When confronted with a patient complaint or low patient satisfaction score, providers tend to rationalize.

“We were slammed that day,” “These patients have unrealistic expectations,” “You want us to move patients through quickly, so patients are less satisfied.”

It can be quite exhausting to challenge every excuse on its individual “merits.” Collectively, trending over time, they are easier to assail. So, I tend to focus on providers that underperform the rest of the group month after month.

The next challenge is to help providers change their approach so they can succeed and meet management’s expectations. This can be tricky and labor intensive, but with a focused analysis and specific guidance, we can influence performance.

First, you need a willing student. If a provider is unwilling to reflect on their performance, they are not a good fit for your urgent care. In fact, they are not a good fit for urgent care at all. In a practice where continuity relationships are uncommon, first impressions are the key driver of patient satisfaction. So, if we focus our collective reflection there, we can find solutions that produce immediate results. Here are a two common provider profiles, with suggested interventions:

- **Excellent clinician/poor communicator:** Strong communication skills help a patient “feel cared for,” are linked to attentiveness, and support understanding. Suggested interventions include:
  - Scripting responses to reflect empathy, appreciation and confirmation of understanding will help this provider give the right impression.
  - Nonverbal communication like eye contact and appropriate touching can provide an assist.

- **Fast, but too fast:** When you start to see complaints that say, “The doctor didn’t even examine me” or “The doctor did not listen to me,” the problem often reflects a provider who’s rushing. Interventions include:
  - Telling these providers to slow down is not helpful; giving them efficient ways to demonstrate attentiveness is far more effective.
  - Scripting can help: After the patient gives their history, try confirming with, “Let me make sure I am hearing your concern accurately…” Simple, empathetic statements can help, as well: “I’m sorry to hear you are struggling with this. Let me see what I can do to help.”
  - Fully understanding the power of “touch.” While you may not find the examination to be particularly relevant, patients expect you to perform one. You should also explain to the patient what you are looking for while you are examining them. This does not add any time to the visit and demonstrates attentiveness and caring.

Working with providers and support staff to identify meaningful solutions that are easy to implement is critical to any performance improvement plan. In my next column, I will shift the discussion to specific “patient profiles” that can trigger service failures, and how to avoid and recover.

Lee A. Resnick, MD, FAAFP
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Acute Compartment Syndrome—An Urgent Care Review

Vigilance for both subtle and overt signs of acute compartment syndrome is critical to preventing devastating—even deadly—consequences for patients presenting with a variety of injuries.

John Shufeldt, MD, MBA, JD, FACEP and Carli Nichta MS-3

The Top 10 Mistakes Hospitals Make in the Urgent Care Business

Hospitals are catching on to the benefits of operating urgent care facilities. Avoiding rookie mistakes when buying or building them can help get new ventures off to a winning start.

Jeffrey Collins, MD, MA

Who Owns Patient Medical Records?

Providers, payers, and patients have all laid claim to “ownership” of patient medical records. But what does that really mean in the digital age?

K Royal, JD

An Uncommon Mechanism for Work-Related Total Achilles Tendon Rupture

Achilles tendon ruptures are the leading precedent to operative tendon repairs. Understanding the mechanisms of injury and likeliest victims is the first step in early diagnosis, timely treatment, and optimal outcomes.


Increasing antibiotic resistance demands that clinicians follow the evidence and employ multimodal approaches to treating patients who have upper respiratory infections—the most common presenting complaint in the urgent care setting. Melissa Jones-Holley, DNP, MSN, APRN, FNP-c, and Tener Veenema Goodwin, PhD, MPH, MS, RN, CPNP, FAAN explain the implications for providers and patients in the May issue of JUCM.

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Most patients would probably breathe a sigh of relief when told their leg or arm x-ray doesn’t show a fracture—and rightly so. For a rare few, however, that benign finding can be misleading. “No break” does not equate to “no problem” if acute compartment syndrome (ACS) lurks around the corner. ACS is a high-risk diagnosis to exclude when evaluating peripheral extremity injury. To spot it, you need to maintain a high clinical index of suspicion. Missing a case of ACS could result in significant morbidity—and even mortality. John Shufeldt, MD, JD, MBA, FACEP and Carli Nichta, MS-3 explain what to look for in Acute Compartment Syndrome—An Urgent Care Review, starting on page 11.

Dr. Shufeldt is the interim chief medical officer at San Carlos Apache Healthcare Center in Peridot, AZ, an adjunct professor at Creighton University School of Medicine, and author of numerous texts on urgent care and emergency medicine. Ms. Nichta is a medical student at Creighton University School of Medicine.

A rupture of the Achilles tendon, conversely, is anything but a rare finding, as it’s the site of roughly 40% of all operative tendon repairs. Quick, correct diagnosis typically starts with identifying a relatively common mechanism of injury. In this month’s case report, however, Zeke J. McKinney, MD, MHI, MPH, Jonathon Swan, OMS-1, and Raechel Baker, MMS, MPH, PA-C relay how one patient ended up with a fairly common, if painful, injury in an unusual way. An Uncommon Mechanism for Work-Related Total Achilles Tendon Rupture starts on page 29. Dr. McKinney is a faculty physician in occupational and environmental medicine and a clinical researcher at HealthPartners in St. Paul, MN. Mr. Swan is a first-year medical student at A.T. Still University School of Osteopathic Medicine. Ms. Baker is a physician assistant practicing both in urgent care in the greater Minneapolis area and in surgery in St. Paul, MN.

Providing care for the injured, whether in the ED or the surgical unit, is old hat for hospitals of course. Some of them are just starting to branch out into the urgent care marketplace, however. And, as with any new venture, they may face a bumpy road or be prone to certain “rookie” mistakes at times. Urgent care veteran Jeffrey Collins, MD, MA points out some of the more common pitfalls in The Top 10 Mistakes Hospitals Make in the Urgent Care Business (page 17). Dr. Collins has contributed to this journal—and advancing the practice of urgent care medicine—for years. He was recently appointed chief medical officer of MD Now Urgent Care.

Less clear are mistakes in trying to figure out who really owns patient records. Yes, they reside in your electronic health record system. But then, certainly the patient has rights as well. And what about the insurers who foot the bill for so much of the care? K Royal, JD, a healthcare privacy attorney based in Scottsdale, AZ, sheds some light on this murky topic in Who Owns Patient Medical Records? (page 21).

Also in this issue:
Sean M. McNeeley, MD and Glenn Harnett, MD distill important new literature down to its most urgent care-relevant points in this month’s Abstracts in Urgent Care (eg. lessons from recent terrorist attacks that could be useful to the urgent care clinician; why patients discharged from emergency rooms that are low-volume and lower cost tend to die earlier than others; a review of whether naproxen is a valid choice for treating patients with low back pain; and more), starting on page 25.

The line between urgent care and critical care can be somewhat blurry, and dependent on many factors. To ensure you’re being reimbursed appropriately, read this month’s Coding Q&A column by David E. Stern, MD, CPC (page 35).

To Submit an Article to JUCM
JUCM, The Journal of Urgent Care Medicine encourages you to submit articles in support of our goal to provide practical, up-to-date clinical and practice management information to our readers—the nation’s urgent care clinicians. Articles submitted for publication in JUCM should provide practical advice, dealing with clinical and practice management problems commonly encountered in day-to-day practice.

Manuscripts on clinical or practice management topics should be 2,600–3,200 words in length, plus tables, figures, pictures, and references. Articles that are longer than this will, in most cases, need to be cut during editing.

We prefer submissions by e-mail, sent as Word file attachments (with tables created in Word, in multicolumn format) to editor@jucm.com. The first page should include the title of the article, author names in the order they are to appear, and the name, address, and contact information (mailing address, phone, fax, e-mail) for each author.

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CONTINUING MEDICAL EDUCATION

Release Date: April 1, 2017
Expiration Date: March 31, 2018

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

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

Accreditation Statement
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Case Western Reserve University School of Medicine and the Institute of Urgent Care Medicine. Case Western Reserve University School of Medicine is accredited by the ACCME to provide continuing medical education for physicians. Case Western Reserve University School of Medicine designates this journal-based CME activity for a maximum of 3 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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CONTINUING MEDICAL EDUCATION

Acute Compartment Syndrome—An Urgent Care Review
(p. 11)
1. What is acute compartment syndrome?
   a. An infection in a hand compartment
   b. A syndrome composed of fever, rapid neurologic changes, and diplopia
   c. A rapidly progressive neurovascular compromise and collapse within an anatomical compartment
   d. A fracture sustained from a twisting mechanism
   e. Another term for subarachnoid hemorrhage

2. What is the most common site for an acute compartment syndrome?
   a. Lower extremity
   b. Head
   c. Abdomen
   d. Back
   e. Toe

3. How is acute compartment syndrome definitively diagnosed?
   a. Plain x-ray
   b. Ultrasound
   c. Measurements of compartment pressures
   d. Skin changes
   e. Presence of numbness in an extremity

The Top 10 Mistakes Hospitals Make in the Urgent Care Business (p. 17)
1. Common problems with hospitals and health systems in operating urgent care centers include:
   a. Urgent care providers are not credentialed in the hospital system or are unfamiliar with system providers
   b. Urgent care utilizes a separate EMR system that does not connect to other practices in the system
   c. Selecting an urgent care consultant or business partner with limited capabilities or differing objectives than the health system’s
   d. Hospital constraints on the urgent care staffing mix, including requiring more staff or more highly skilled staff than necessary
   e. All of the above

2. Which of the following concepts typically underlies a hospital or health system business case for urgent care?
   a. Desire to cultivate downstream referrals
   b. Desire to minimize network leakage
   c. Desire to decant/bypass the emergency department for low-acuity visits
   d. Desire to decrease total cost of care in a population
   e. Any or all of the above

3. Limitations on a hospital’s or health system’s ability to be successful in the business of urgent care may lead to:
   a. Considering the impact of legal regulations, requirements of accreditation agencies, and internal operating constraints on the urgent care business
   b. Partnering with a third-party operator with specific urgent care experience, as opposed to managing the urgent care itself
   c. Embracing telemedicine as an alternative to urgent care
   d. A and B only
   e. All of the above

An Uncommon Mechanism for Work-Related Total Achilles Tendon Rupture (p. 29)
1. The most common demographic for an Achilles tendon rupture is:
   a. Children <2 years of age
   b. Adolescent girls
   c. Athletic men age 30-50
   d. Elderly men
   e. Elderly women

2. Which of the following is true?
   a. The urgent care evaluation of suspected Achilles tendon rupture should include a history of a “pushing off” mechanism of extreme plantar flexion
   b. The history should determine whether the patient felt or heard a “pop” in the back of the ankle
   c. Questions should include recent fluoroquinolone use
   d. The physical exam should include examining both ankles, checking for a visual or palpable defect of the ankle such as swelling, ecchymosis, and/or a lack of tension over the Achilles tendon
   e. All of the above

3. Which of the following is true?
   a. Management of an Achilles tendon injury includes a short leg splint placed posterior to the ankle extending from the upper calf to the toes
   b. The patient should be advised to return rapidly to sports, including jogging, running, and jumping
   c. The patient should receive a prescription for a prolonged duration of narcotic medication with multiple refills
   d. No follow-up is necessary
   e. The definitive diagnosis will be established with exam, and advanced imaging is never indicated
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Population health strategies aim to improve the quality of care for communities, not just our traditional approach of caring for the individual. Urgent care plays a crucial role by optimizing efficiency, quality, and outcomes throughout the continuum of care, while also expanding patient access.

Managing population health brings new financial risks when it comes to patient care, linking the patient experience and outcome directly to payment. In order for urgent care centers to succeed within the financial landscape of these new models of care, patient engagement will be key.

**Patient Engagement Technology**

Innovative technologies enable management of population health strategies by capturing, tracking, and sharing patient data. The role of urgent care providers has evolved to include developing interactive relationships among physicians, patients, ancillary caregivers, and technology beyond the exam room. Patient engagement technology can increase patient satisfaction and involvement throughout the continuum of care to improve clinical outcomes.

Among patient engagement technology’s benefits:
- Improving care coordination between providers
- Leveraging the role of urgent care beyond episodic care
- Supporting informed diagnosis and treatment decisions
- Equipping patients with information to support a more active role in their healthcare management
- Reducing errors and increasing administrative efficiency

As healthcare becomes increasingly information-driven and patient-centric, it is imperative for urgent care providers to stay on the cutting edge of patient engagement technology innovations to ensure interoperability with other providers and secure fair, consistent, and predictable reimbursement rates.

**Increasing Patient Engagement**

A 2016 study by CDW Healthcare found that 57% of patients and 70% of providers reported an increase in patient engagement over the previous 2 years. Patients are increasing the frequency of communication with providers and accessing their healthcare information with greater ease. To make engagement technology accessible to all patient populations, consider each patient’s unique healthcare journey. Here are some tips:

1. Understand your options and select the right technology to reach your patient population.
2. Present the technology with instructions, demonstrations, and big-picture visual communication tools to demonstrate how it works and its benefits to the patient.
3. Offer mobile-optimized technology so the patient can access information on-demand from anywhere. Access to care has been key for most urgent care centers.
4. Provide ongoing education and timely responses to patient communication.
5. Seek feedback at every opportunity to understand how best to improve the experience.

With a more engaged patient population, technology can help urgent care providers gather useful information for better predictive analytics, assist in more effective interventions, and improve outcomes. Likewise, patients can utilize the technology to access information and share responsibility in their healthcare, while enjoying a more fluid experience throughout the continuum of care.

Join us at the Urgent Care Convention & Expo to learn more about the evolving role of technology in urgent care.

**Reference**

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Acute Compartment Syndrome—An Urgent Care Review

Urgent message: Acute compartment syndrome (ACS) is an important high-risk diagnosis to exclude when evaluating peripheral extremity injury. Providers must maintain a high clinical index of suspicion to preclude the devastating, rapidly developing sequelae of ACS. Missing a case of ACS may result in significant morbidity—and even mortality. Awareness of both subtle and overt signs will ensure the best care of the urgent care patient.

JOHN SHUFELDT, MD, MBA, JD, FACEP and CARLI NICHTA MS-3

There are multiple etiologies of acute compartment syndrome (ACS), including thermal burns, crush injuries, bandages that are too tight, and fractures.1-6 The case below demonstrates how awareness of the mechanism of injury is critical to diagnosing ACS.

Case Presentation
A 15-year-old male presents to urgent care after running and jumping 4 feet into a shallow ravine and landing on a rock, twisting his right knee and ankle. Evaluation revealed pain in the lower right thigh, lateral aspect of the right knee and medial aspect of the right ankle, accompanied by decreased strength on plantar and dorsiflexion of the right leg compared with the left leg.

Examination of the right knee and ankle was notable for swelling, with no deformity or crepitus upon palpation. Neither joint demonstrated any gross instability, and the dorsalis pedis pulses and posterior tibial pulses were found to be equal bilaterally. X-ray images of the right femur, tibia/fibula, and foot were negative for fracture and dislocation. They were positive for an effusion in the right lateral knee. The patient was discharged home with an elastic bandage, acetaminophen, ibuprofen, range-of-motion activities, and follow-up instructions.

Three days later, the patient returned with worsening pain, nonresponsive to medication and accompanied by increased right lower leg swelling. On examination, the right lower leg was extremely tender to palpation (pain aggravated by flexion), swollen (right calf measured as 42 cm compared with the left calf measured as 33.5 cm), and cool to touch, with notable ecchymosis. The right dorsalis pedis pulse was noted as weak and difficult to palpate, and sensation was decreased. The differential diagnosis included deep vein thrombosis, swelling secondary to muscular strain, and ACS.
The patient was transported emergently to the hospital, where it was discovered that he had ACS secondary to a popliteal artery transection. He underwent emergent surgery which included repair of the popliteal artery, as well as an extensive fasciotomy including the anterior, lateral, and posterior compartments.

Discussion

What is acute compartment syndrome?
Acute compartment syndrome is a rapidly progressive neurovascular compromise and collapse within an anatomical compartment. The fascia that defines anatomic compartments is composed of dense fibrous connective tissue, unyielding to increased pressure. ACS occurs when intracompartment pressure increases to the point of ischemia, infarction, and necrosis. It is a true surgical emergency as the risk of permanent damage is high.

Etiology
ACS can develop from a multitude of causes, all converging on a common pathogenesis of cellular anoxia leading to irreparable damage. Trauma most often precipitates the development of ACS, accounting for a vast majority of cases. One recent study by Marchesi found 63.6% of ACS cases to be due to trauma; a study by Hope showed 69% of ACS cases developed following fracture. Of traumatic causes, long-bone fracture is overwhelmingly the most common, accounting for 75% of cases. ACS has also been shown to develop secondary to elective procedures, especially involving ischemia reperfusion, and patients receiving anticoagulation therapy. Hope found that 10% of ACS cases associated with nonfracture injuries developed in patients who either had an underlying bleeding disorder or were receiving anticoagulation therapy. The reliable association between fracture injury and ACS development overshadows non-trauma-related ACS cases, often resulting in a delay in diagnosis. Hope found that ACS cases without fracture had a mean time to fasciotomy 12.4 hours longer than those cases occurring secondary to fracture. ACS most commonly occurs in the lower extremity, and the most common preceding trauma is a posterior tibiofibular dislocation, with potential involvement of the popliteal artery.

Locations of ACS
While the lower extremity is the most common site of ACS, other worrisome areas include the buttock, forearm, wrist, and hand. Both the wrist and hand share similar mechanisms of vascular compromise to the lower extremity. The buttock, however, has a more varied blood supply, with rich anastomosis. When ACS develops in this region, it is most commonly secondary to procedures; thus, the recognition and evaluation have a different course.

Regardless of the site affected, the manifestations of ACS are dramatic, as the final common pathogenesis is cellular anoxia leading to irreparable damage. ACS cases almost always result in significant loss of function, and even limb amputation.

Symptoms and Signs of Acute Compartment Syndrome
The pathogenesis of ACS is such that the extent of damage will not be apparent at initial presentation. While
acute inflammation develops rapidly and is usually self-limited, associated edema does not reach a maximum until hours to days after an acute trauma. This delay puts patients at risk of developing ACS. Those familiar with pathology recognize and anticipate the 5 Ps of ischemia:

- pulselessness,
- pallor,
- pain,
- paresthesia, and
- paralysis.3

Of these hallmark signs, pain is the only variable present in all cases of ACS. While pulselessness, pallor, paresthesia, and paralysis present as ACS progresses, they reflect a state of ischemia, suggesting that irreparable damage may already have occurred.

The most prevalent symptom of ACS is pain disproportionate to the injury, and pain that increases with passive stretching.3 This is often referred to as “pain out of proportion” (POOP), and is a “red flag” of serious illness.

Clear signs of vascular injury include diminished or absent pulses and pale, cool skin.2,3 Unfortunately, these unmistakable signs are not always initially present, complicating prompt diagnosis.

Compartment syndrome of the lower leg
In the case of compartment syndrome of the lower leg, the initial findings are not necessarily helpful for identification or diagnosis.3,12-14 Specifically, detection and evaluation of abnormal peripheral pulses on physical examination of knee dislocation are not an adequate evaluation of circulatory stability.

A metaanalysis of 284 knee dislocations found abnormal pedal pulses had a sensitivity of 0.79 (95% confidence interval [CI], 0.64-0.89), a specificity of 0.91 (95% CI 0.78-0.96), a positive predictive value of 0.75 (95% CI, 0.61-0.83), and a negative predictive value of 0.93 (95% CI, 0.85-.96).12 These findings were neither sensitive nor specific enough to detect vascular injury.12 In the case presented above, dorsalis pedis and posterior tibial pulses remained palpable, despite significant injury to the popliteal artery. Similarly, several confirmed cases of ACS feature warm skin at the dorsum of the foot and/or palpable peripheral pulses, highlighting these findings as misrepresentations of vascular integrity.4,14-18 These conclusions verify that physical exam findings of dorsalis pedis or posterior tibial pulses are insufficient to lower index of suspicion for ACS. Furthermore, posterior tibiofibular dislocation may not cause overt transactions of the popliteal artery,5,18 instead initiating traction injury to the arterial intima and/or media. In this case, the vessel appears falsely intact, and initiates a prothrombotic environment within the popliteal fossa, increasing the risk of thrombus formation several hours or days later.4,11,18

Testing
Evaluation of traumatic knee pain is complex, depending on the mechanism of injury, symptoms and signs present in each patient, with a common pathway of evaluation including a history, exam and consideration of imaging.3,12,19,20 The imaging modality of choice for a suspected fracture is plain x-ray, while MRI is preferred for suspected ligature or meniscal tear.20 Unfortunately, neither x-ray nor MRI provides adequate visualization of the vascular system to help guide clinical decision-making, including transfer and referral decisions. Disposition needs to be based on mechanism and exam findings.

ACS occurring in adolescent males is most often associated with a tibial fracture and posterior tibiofibular dislocation. The growth plates in this population may still be prominent, and may obscure tibial plateau fractures.1,2,11,21 This clinical nuance is further support for maintaining a high index of suspicion of ACS throughout any workup of knee trauma with history congruent with ACS risk factors.

The definitive exam is measurement of compartment pressures, which is commonly performed by an orthopedist in a critical care setting. Possible techniques include using a handheld manometer, simple needle manometer system, or the wick/slit catheter technique.

ACS Secondary to Popliteal Artery Injury
The popliteal artery, a continuation of the femoral artery, is the main blood supply to the lower leg, passing through the popliteal fossa before branching to form the anterior and posterior tibial arteries. The artery’s close proximity to the joint capsule, paired with the resting tension across the fossa, makes the popliteal artery vul-
The history and mechanics of the injury are essential clues in determining whether a patient is at risk for ACS. Cases of potential knee dislocation should be approached with a high index of suspicion and thorough history guided, but not dictated, by a careful physical exam. Assessing joint stability by accurate anterior and posterior drawer test, as well as palpating distal pulses and assessing capillary refill, are necessary parts of the physical exam; however, normal findings are certainly not sufficient to rule out hemodynamic compromise that could potentially progress to ACS. “Pain out of proportion” is an important clue to look for a life- or limb-threatening cause of symptoms.

**References**

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The Top 10 Mistakes Hospitals Make in the Urgent Care Business

Urgent message: Hospitals are entering the urgent care marketplace at increasing rates. Fundamental mistakes early in the urgent care acquisition or buildout process can greatly hamper their performance further down the road.

JEFFREY COLLINS, MD, MA

Introduction
It should not be surprising that when hospital executives and personnel sit down to discuss issues and problems around population health, accountable care organization (ACO) integration, network development, cost containment, new product lines, hospital readmission rates, care coordination, and related topics they often arrive at hospital-centric and hospital-based solutions to solve them.1 As hospitals and hospital networks look to urgent care centers to address some of these issues through hospital/urgent care affiliations, joint ventures, hospital-owned urgent cares, and other models, the basic relationship between these partners can have some strikingly fundamental flaws. This paper discusses 10 common mistakes hospitals make when integrating with one or more urgent care groups.

The List
This list is not presented in any particular order of importance, nor is it even close to exhaustive. The cases presented are actual cases. Some details have been omitted for confidentiality. If the reader gets the feeling that some of the cases could fit into several of the “mistake” categories, they’re correct; most hospital systems don’t make only a single error.

1. Not having a reason for getting in the urgent care game
Many hospitals don’t have a good reason for even wanting to do urgent care in the first place. Some argue it’s for population health. Others will straight-out say it’s because they want to keep their own patients within their network (ie, to decrease “leakage”). Some will go so far as to say it’s to decrease the cost of care. The first thing a consultant is likely to say is, Show me a program where you have used a population health model to decrease the overall cost of care.2 The second is, Demonstrate a program where a local urgent care can directly admit a patient to a hospital service, thereby bypassing the hospital’s emergency department and potentially saving the system/patient thousands of dollars in healthcare costs. Most hospital executives are flabbergasted to know such programs actually exist. The
question is whether they truly want to save the healthcare system money.3

**Case:** A large not-for-profit hospital system entered into a joint venture with a medium-sized urgent care company that was new to the region. The venture was started under the guise of population health management. The urgent care company then started opening and operating urgent care centers with a team of providers who were not credentialed in the hospital system, who were unfamiliar and not integrated with the local hospital-owned primary care practices, and who utilized a separate EMR that couldn’t speak to the other practices. When the urgent care centers failed to see expected volumes, the hospital system had to figure out what they “really” wanted to achieve and how they needed to revamp their urgent care centers to do so. Urgent care is local, and it’s community-based. **Interoperability** pertains not only to the EMR but to those providing care. If population health improvement is a goal, then care coordination has to be structured into the urgent care through seamless relationships with patient-centered medical homes, the local emergency departments, and subspecialists.4,5

**Take-home point:** Know why you want to be doing urgent care in the first place.

2. **Selecting the wrong urgent care partner**

For those hospitals who actually get over the initial hurdle of understanding why they want to get into urgent care (and hopefully develop metrics around measuring this) and who devise the appropriate business model, the next mistake is often choosing the wrong partner to help them achieve their goals. (In other words, the wrong deal with the wrong partner at the wrong time.) Some hospitals have chosen to partner with retail clinics, others with an urgent care group, and still others have built their own urgent cares alone or with urgent care partners.6

**Case:** A national urgent care group was new to a geographic area and growing quickly. Although there were several smaller community hospitals in the area, there was one large hospital group that controlled the majority of the primary care offices. The urgent care company hired a physician from the large hospital-owned primary care group in order to establish easy connections. Although the physician came with walk-in experience and knowledge of the patient population, he was not as familiar with the urgent care model and struggled to keep the urgent cares productive.

**Take-home point:** Leadership and management are not the same things, and hospitals have to understand the importance of selecting the right person to lead an urgent care facility in today’s marketplace.

3. **Selecting the wrong hospital department**

Many hospital systems decide they want to start an urgent care, and then they can’t decide which department in the hospital to house them. Any department selected comes with leadership issues, department politics and constraints, and downstream consequences.9

**Case:** A large hospital system grew their urgent care centers organically, but as they acquired additional hospitals the urgent cares found it difficult to interact. One urgent care center was part of the primary care division in the Department of Medicine, another two urgent cares were under the Department of Emergency Medicine, and a fourth was a separate department entirely. One saw its mission as helping primary care physicians by being available when they weren’t and doing procedures and caring for sicker patients in order to improve the patient flow in the primary care practices. The group under the ED umbrella treated the urgent care as a less capable offshoot of the ED. Hospitals need to make sure their original goals for having the urgent care, the mission of the urgent care, and the department they decide to locate urgent care in, all synch together seamlessly.10

**Take-home point:** Know the unintended consequences of where you decide to place urgent care in your organization.

4. **Selecting the wrong urgent care leadership**

Urgent care centers are not “mini-EDs;” nor are they walk-in clinics for the hospital’s primary care offices. They can become either, however, if hospital leadership does not select the proper management team.

**Case:** A national urgent care group was new to a geographic area and growing quickly. Although there were several smaller community hospitals in the area, there was one large hospital group that controlled the majority of the primary care practices. The urgent care company hired a physician from the large hospital-owned primary care group in order to establish easy connections. Although the physician came with walk-in experience and knowledge of the patient population, he was not as familiar with the urgent care model and struggled to keep the urgent cares productive.

**Take-home point:** Leadership and management are not the same things, and hospitals have to understand the importance of selecting the right person to lead an urgent care facility in today’s marketplace.
5. Selecting the wrong urgent care staff
When starting or operating a busy urgent care center, there is often a tendency to just get warm bodies to fill positions. They may understand the hospital mantra and even come from other positions in the hospital, but working in urgent care takes a certain mindset and a proactive disposition. Hospitals may be burdened by patient care ratios, hospital-specific skill set limitations for certain roles, staffing budget constraints, providers with non urgent care backgrounds, and more. You may be in a setting where a combination of these staffing factors negates the hope of efficient and smooth patient flow in an urgent care setting.11

Case: A large hospital-owned urgent care had a very busy practice but continued to lose 10-20 patients a day to walkouts due to long waiting times. The hospital’s solution was to bring in additional providers to “speed up” the process rather than address other inefficiencies. When the nursing department saw additional providers being used, they argued successfully that more providers equated to the need for more nurses. Flow improved minimally, but at the high cost of adding not only a provider, but a nurse.

Take-home point: Finding the right staff is hard, but it’s much better to do it up front than be left picking up the pieces after.

6. Selecting the wrong consultant
Many consultants understand the history of urgent care and how it continues to evolve. They understand the disruptive forces affecting urgent care: changing regulatory rules, increased healthcare costs, network development by hospital systems, freestanding EDs, retail clinics, and open-access primary care. Unfortunately, few urgent care consultants understand the implications of all these pieces as they might pertain to a client’s local healthcare environment and the clinical practice of urgent care.

Case: A large national urgent care chain wanted to move into a new part of the country where they hadn’t had a significant footprint in the past. The franchise owner suggested an individual who was a physician with great business ties and who had worked as an internist for many years in the area, but who only recently started working in an urgent care setting. The franchises opened and are doing OK, but not hitting projected patient targets because the internist was unaware two urgent care groups were opening sites blocks from his site.

Take-home point: Understand the expertise and knowledge gaps of the person who’s giving you advice.

7. Not considering the impact of hospital policies, outside agency regulations, and lack of flexibility on urgent care operations
Not-for-profit hospitals are guided (burdened) by a myriad of local, state, and federal regulations, as well as internal hospital rules and external requirements from outside agencies (eg, JCAHO) that can make the practice of urgent care slow, at best. The list is exhaustive: who can triage, the time it takes to triage, who can dispense a medication, where a lab sample can be run, who can discharge the patient, and on and on. Hospital executives need to seriously consider whether their type of operation can mesh with urgent care, or whether their efforts are better spent integrating with an outside urgent care group who can meet their standards for high-quality ambulatory care.

Case: A hospital-owned urgent care was prevented from getting an onsite lab device for testing BNP, troponin-T, and d-dimer. Hospital laboratory policy, CLIA regulations, and other agency regulations were involved in the decision. This resulted in bloodwork needing to be sent to the hospital laboratory with a subsequent 2-4 hour turnaround time, increasing a patient’s length of stay in the urgent care and increasing the number of patients directly referred to the hospital ED.

Take-home point: It’s often difficult for hospitals to do urgent care well, and they need to honestly assess all their limitations.

8. Wrong location to carry out the plan
Talk to anyone in the urgent care business and they will recite the real estate mantra “location, location, location” when it comes to defining the number-one criteria for success. Hospitals may be limited in site selection by regulatory, cost, and sociopolitical issues regardless of their deep pockets. Often, their perception of a “good location” doesn’t work out because they never matched their original goal for having an urgent care with the best location for achieving that goal. Please note: a not-for-profit hospital system partnering with an urgent care group may have multiple reasons for placing an urgent care in an underserved, resource-poor community vs an independent, private, equity-backed urgent care company.

Case: A large academic medical center was interested in developing urgent care centers. Their single goal was to decrease their emergency department utilization. With this in mind, they built their urgent cares literally
within walking distance and in sight of their ED. They were phenomenally successful in achieving their goal within months of opening. Despite political pressures to locate in a community, regulatory hurdles to pass because they were building so close to existing services, and cost constraints given the price of the property, they persevered and met their goal.

Take-home point: Location may be everything, but failing to understand the deeper importance of how location can affect your goal is critical.

9. Not understanding your local competition (now and in the future)

Urgent care, like any industry, can be at the mercy of the “next big thing:” telemedicine, open-access primary care, subspecialty urgent care, employer-located urgent care clinics, and more. Disruptive innovation can be your friend and your foe.12

Case: A large, urban, hospital-owned urgent care was doing extremely well as the “only show in town.” It was seeing close to 40,000 patient visits a year, and although it was burdened by typical hospital regulations and compliance measures, it ran smoothly. Over the span of a few years, however, the area saw several new healthcare facilities open, including a large occupational health practice operated by a local orthopedic hospital and several freestanding urgent care centers. In addition, several of the larger primary care practices in the area became NCQA level III patient-centered medical homes that were mandated to see their own acute patients within a certain amount of time. While this was occurring, the primary care practices that referred patients to the urgent care were closing their patient panels to new patients due to the lack of primary care access. This wave of both external and internal events, all of which could have been dealt with in a coordinated manner if the hospital chose to address them in a coordinated fashion, led to the decimation of the urgent care to the point where it is seeing about half the patient volume it once was.

Take-home point: Have a clear understanding of your competition now and down the road—and be ready to have a response to that competition.

10. The myths of cost savings

You often hear hospital executives talk about “the right care, at the right time, at the right place.” Notice that they never go on to say “at the right price.” There are multiple reasons for rising healthcare costs, and urgent care can help with some; it is not, however, a panacea that any hospital can turn to without a lot of consideration. Healthcare economists will also chime in that the more access points to care and the more care coordination there are, the higher the cost of care will be. The answer returns to the four “rights.”2,5,13–15

Case: A large not-for-profit hospital system had an outside-contracted ED group staffing its ED and a separate academic-affiliated group staffing their pediatric floors and ICU. The pediatric team was troubled by dehydrated pediatric patients sent from outside practitioners boarding in the ED for long periods of time. They devised a protocol with several of the local large urgent cares to direct-admit pediatric patients that met specific criteria to a same-day pediatric observation/short-stay unit for hydration and likely same-day discharge. The program was successful, but was curtailed when the ED group complained about lost revenue due to being bypassed.

Take-home point: Urgent cares don’t have a magic formula for saving you a lot of money or making you a lot of money. Maximizing both benefits requires integrating urgent care into the continuum of care the right way.

References
This is my **first startup**, so I relied on UCC for pretty much everything... I felt confident they knew what they were doing.

And everyone has been very nice, very personable.

Greg Fernandez, MD, Bayou Urgent Care
One of the big things I focus on when I am training clients is to identify ways to make the software work better for them rather than make our clients work around our software.

-Kristina Flores, Practice Velocity

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William Gluckman
DO, MBA, FACEP
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Urgent message: While historically there has been an understanding that patients own the information contained in their records, and that providers own the record itself, lack of a federal law governing the ownership of medical records poses a conundrum when those records are stored electronically.

New challenges demand innovative solutions—often new technologies that make life easier. Certainly technology has advanced healthcare to improve our lives. Yet, perhaps more noticeable in the medical realm than in other fields, we see the clash of technology with standard practices.

Medical records are a prime example. For centuries, medical professionals have kept records on their patients. “If it’s not written, it didn’t happen” is an age-old saying in the healthcare field for a valid reason. Often, unless something was documented, no one could prove it happened (critical to insurance claims and lawsuits); even more importantly, however, few could remember what happened—what symptoms occurred when, what treatment was given and either succeeded or failed, what side effects were seen, how fast a disease spread, and numerous other critical pieces of information.

One would think that the advent of technology would make medical recordkeeping easier—and in some ways, it has. Ready availability of histories and information pertaining to medications and allergies has helped make transmitting prescriptions from the doctor’s office to the pharmacy, sending records to a specialist from the referring doctor, and receiving critical information in a timely manner commonplace. The Centers for Medicare and Medicaid Services (CMS) states that electronic health records (EHRs) “are the next step in the continued progress of healthcare that can strengthen the relationship between patients and clinicians. The data, and the timeliness and availability of it, will enable providers to make better decisions and provide better care.” The agency goes on to describe the EHR as “an electronic version of a patient’s medical history, that is maintained by the provider over time, and may include all of the key administrative clinical data relevant to that person’s care under a particular provider, including demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data and radiology reports. The EHR automates access to information and has the potential to streamline the clinician’s workflow. The EHR also has the ability to support other care-related activities directly or indirectly through various interfaces, including evidence-based decision support, quality management, and outcomes reporting.”

Clearly, the EHR manifests in a variety of forms and sophistication, from the simplest scanning of documents into a computer so they can be stored easily and retained, to the most complex system involving federal agencies, vendors, data crunchers, and automation for metrics, audits, and manipulation.

And therein lies our problem.

An Evolving Answer

Historically, individuals have truly owned their medical information. It’s a simple view; the information is about a person so, therefore, it belongs to that person. However, medical practitioners also have a huge stake in the record, because it documents what treatments were ordered and provided, and what tests were given, reviewed, and used in order to make a diagnosis or rule out a potential issue. Over time, the practical view has been that the patient owns the information, but the medical professionals—the doctors, in particular—own the records. And if a doctor works for a healthcare entity, then there is the added consideration of whether the entity has an ownership interest in the record (which they certainly do).

The U.S. does not have a federal law that states who owns medical records, although it is clear under the Health Insurance
Portability and Accountability Act (HIPAA) that patients own their information within medical records with a few exceptions. Thus, we look to state law. New Hampshire is the only state that provides for ownership—and even then, limits it to the information within the record: “All medical information contained in the medical records in the possession of any healthcare provider is the property of the patient.” It then goes on to state that the patient has the right to receive a copy.

One could easily argue, then, that the record is not owned by the patient if the patient can only receive a copy.

Twenty states are clear that the medical records belong to either the provider or the facilities. This provides for an interesting debate between a provider and a facility. In the overwhelming majority of those 20 states, the facility or employer owns the records created by a provider. From a legal viewpoint, the providers would be entitled to copies, given the professional nature of the records. However, in the remaining 29 states (or 30 if we count the District of Columbia), there is no mention of ownership. According to a poll by Medical Economics, 33% believe patients own records, 65% believe physicians do, and 2% believe EHR vendors do.

What EHR vendors own medical records? Vendors that offer EHR systems stored remotely and offered as a cloud-based services. And wither within the same vendor or as a partner, there are analysts who review the EHRs for a variety of metrics and data points related to population health, diseases, payments, certain tests, etc. This analysis may or may not be known to the doctors or the healthcare entity. This analysis is legal and, in some ways, even encouraged to better inform the medical field in general. For example, the U.S. Centers for Disease Control and Prevention has an interest in reactions to vaccines and may track vaccines across the nation by control number, age of patient, reaction, etc.

Many healthcare providers are familiar with EHR vendors, such as Allscripts and Practice Fusion (and many others). However, EHRs also comprise those records with affiliated services, such as radiology, pharmacy, medical device manufacturers, and care coordinators. In some cases, the records with the affiliated services may be the only detailed record in existence. This can add complications for both the providers and the patients.

Denying Access
In reviewing some of the publicly available information from EHR vendors, there were some common themes, mainly around limitation of liability and access rights. In many cases,
access to the EHR can be immediately discontinued upon non-payment, allegations of misuse, or in their “sole discretion” if someone with access may jeopardize the confidentiality; may violate the agreement (note “may” not “is” or “has”); and/or violate someone’s rights. Nowhere in the agreements is it addressed how the doctors can access records if needed. A patient’s life may literally hang in the balance before the practice can reach customer service and attempt to get information.

Another concerning issue is limiting liability. It may be typical to see a software vendor disclaim any liability even if the vendor is the one who caused the harm, but this has far-reaching consequences for the practitioner, and perhaps the patient. For example, if patient records are mixed through a programming error, the vendor would be held blameless. (This may not count in states where gross negligence cannot be contracted away, though even then legal action would have to be taken in order for the issue to be addressed). Even if liability is placed on the vendor, it is also common to limit liability to a small set of fees paid, usually around 6 months’ worth. If there is a breach of privacy, medical records are mixed, loss of access occurs, or anything causes huge regulatory impacts happens, it’s simply a case of buyer beware.

Let’s say a doctor loses access to a patient’s medical records. Practically speaking, that patient essentially loses access to those records. So, who owns them?

Most contracts would state that the doctors own them (or that the vendor does). Generally, the vendor owns the right to grant or deny access. This makes ownership a moot point, because if the doctor cannot access them to provide care, transfer the information to another provider, or to give the record to the patient (a patient right under HIPAA) then the records are essentially being held hostage, which is not permitted. Even HIPAA provides that a doctor cannot withhold medical records pending payment for care—but these vendors can, and do.

There are some common scenarios which complicate this even further; eg, doctors may pass away, or retire or leave the practice of medicine without notice. In each of these scenarios, there would be a problem immediately accessing EHRs without some kind of arrangement already in place. The EHR vendors do accommodate authorized users, but what if there isn’t one?

If the only way to validate an authorized user is through the doctor, and that doctor is unavailable, then there will be issues getting patients the care they need in a timely fashion. And remember, the vendor has essentially no liability, per contract. In most cases, the vendors also state that they have no responsibility to accommodate patient rights directly, and it is common practice for a business associate (as defined under HIPAA) to defer patient access requests back to the provider.

Addressing these serious concerns will take either reasonable minds to work out common practice standards for EHRs or a tragic event where medical records are inaccessible, resulting in dire consequences.

It is not truly ownership that is the issue, so much as control. There are many interests here, all with valid legal considerations. Each professional must document findings; entities must document care and billing; associated vendors must document their actions; and patients need the information available. In the end, a legal, ultimate source record must be kept; the fundamental question is, who has the keys to it? It should not be the EHR vendor with ultimate control, and, despite their protestsations to the contrary, the contracts give the EHR vendors critical access control.

What You Can Do

What can doctors do now, especially if they have little bargaining power? Read the contracts with the EHR vendors and negotiate using the law. Doctors should carefully read the contracts anyway, given the incredibly broad authorization EHR vendors have to use the data in many ways. Selling to medical practices is not the EHR vendors’ only business model, by far; the data part is far more lucrative, in fact.

If doctors cannot withhold records from patients for lack of payment, then there must be a mechanism to ensure records are not withheld from doctors. In the case of nonpayment, records are returned to the doctors in a readable format. If a doctor is no longer practicing (for whatever reason), the employer, estate trustee, and/or medical board are notified and a set of procedures would already be in place per state law. In such cases, records could not be deposited with the trustee as that would violate privacy laws; however, the trustee could be notified of available options.

The question for the EHR vendor is, if the physician is no longer practicing, who is responsible for maintaining the records for the legal retention time (which could be decades when minors are considered, as the retention clock generally starts ticking once patients reach adulthood)?

Further, interest groups, such as the American Medical Association, should issue clear guidance on this topic to acquaint practitioners with the legal issues and potential solutions. A set of industry standards that all EHR vendors (both direct and associated records with various vendors) must adhere to is recommended, even if this is a self-regulated effort. Medical records are too important to leave this issue unattended.

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Lessons from Recent Terrorist Attacks
Key point: Investment, integration, standardization, and focus on translating military knowledge.
Citation: Goralnick E, Van Trimpont F, Carli P. Preparing for the next terrorism attack: lessons from Paris, Brussels, and Boston. JAMA Surg. 2017 Jan 25. [Epub ahead of print]

This viewpoint article in JAMA Surgery sheds light on the need for a more global concerted effort to gather and share lessons from recent terrorist attacks such as those that occurred in Nice, Paris, Orlando, and Istanbul. The authors propose that the valuable lessons learned by healthcare professionals in each of these attacks need to be captured and disseminated in a rapid, standardized, and academically rigorous after-action reporting system. They propose establishing a rapid-response team to investigate health systems’ reactions to mass casualty events. This would be similar to the National Traffic Safety Board’s Go Team, which promptly investigates civil aviation accidents. They also suggest that more education/training should be provided to the public regarding first aid for potentially exsanguinating injuries. For the urgent care provider, this is a reminder to consider disaster planning and working with your local hospital.

Analysis of Early Death After Discharge from the ED
Key point: Early death is higher in low-volume, lower ED admission rate, and lowest cost settings.

This retrospective cohort study published in BMJ used Medicare claims data to study varying metrics in patients discharged from the ED with presumed non-life-threatening presentations who eventually died within 7 days of discharge. The leading causes of death were atherosclerotic heart disease, myocardial infarction, chronic obstructive pulmonary disease, pneumonia, congestive heart failure, and diabetes/hypertension complications. Narcotic overdose was eighth, usually following treatment for an injury or back pain. The authors report that there is a “clinical signature” of discharge diagnoses from EDs that is linked to short-term deaths, especially syndromic illnesses not involving pain (eg, altered mental status, dyspnea, malaise, and fatigue). When comparing hospital systems, they noted that hospitals with lower patient volumes, lower ED admission rates, and lowest costs had the highest rates of early death following ED discharge. The authors point out efforts to reduce admission rates from EDs need to reflect extreme care in patient selection to ensure those well-intentioned efforts do not put patients at risk. For the urgent care provider, this provides both a list of causes...
Could MRI Be Used in Diagnosing GCA?

Key point: MRI of scalp arteries could be used as the initial diagnostic procedure in GCA.


Giant cell arteritis (GCA) is a large vessel vasculitis usually affecting the temporal artery. Its incidence rate increases from 2.2 per 100,000 persons per year at ages 50-59 to 51.9 in patients older than age 80. Symptoms include new-onset headache, scalp tenderness, jaw claudication, and amaurosis fugax. Temporal artery biopsy has long been the gold standard of diagnosis, but it is obviously invasive and previous studies have shown sensitivity levels as low as 39%. This study compared the concordance between temporal artery biopsy vs scalp artery MRI in the diagnosis of GCA. The study showed that normal scalp artery MRI findings were highly predictive of normal temporal artery biopsy findings, with a negative predictive value of 98.2%. The results suggest that MRI could be used as the initial diagnostic procedure in GCA, with temporal artery biopsy being reserved for patients with abnormal MRI findings. For the urgent care provider, this is at least an option patients might want to know about, and a reminder to look for TA.

Re-evaluating Naproxen + Diazepam for Acute Low Back Pain

Key point: Diazepam was not found to be more effective for low back pain than placebo in this study.

Citation: Friedman BW, Irizarry E, Solorzano C, et al. Diazepam is no better than placebo when added to naproxen for acute low back pain. *Ann Emerg Med.* 2017; Jan 19. [Epub ahead of print]

This randomized, double-blinded, comparative efficacy trial studied patients with acute, nontraumatic, nonradicular, low back pain. All patients received naproxen 500 mg BID prn for low back pain and were further randomized to receive either diazepam 5 mg, 1-2 Q12 hours prn or an identical-appearing placebo. Results showed conclusively that naproxen plus diazepam did not improve pain or functional outcomes compared with subjects receiving naproxen alone. The differences between the two groups achieved neither clinical or statistical significance. Urgent care clinicians should reconsider the use of diazepam for low back pain, as it does not appear to confer any benefit beyond that of placebo when added to naproxen.
Vancomycin vs Metronidazole in C Diff

Key point: Vancomycin and metronidazole are equally effective, but mortality may differ.
Citation: Stevens VW, Nelson RE, Schwab-Daugherty EM, et al. Comparative effectiveness of vancomycin and metronidazole for the prevention of recurrence and death in patients with Clostridium difficile infection. JAMA Intern Med. 2017; Feb 6. [Epub ahead of print]

This retrospective cohort study looks at treatment of laboratory-proven Clostridium difficile infection with metronidazole and vancomycin. The study reviewed 47,471 patients from a Veteran Affairs patient panel. Endpoints included recurrence of infection in 8 weeks’ time or 30-day, all-cause mortality. Only 2,000 patients were treated with vancomycin. So, only 8,000 metronidazole patients were matched. The cohorts were also subdivided into mild/moderate and severe disease. Recurrence did not differ between the groups. All-cause mortality was significantly less among severe disease patients treated with vancomycin. For the urgent care provider, considering vancomycin for the severest of cases may make sense.

Is There an Advantage to High-Flow, Humidified Oxygen for Bronchiolitis?

Key point: High-flow humidified oxygen does not hasten recovery.

According to the authors, bronchiolitis is the most common lung infection in infants. Recently, the use of high-flow humidified oxygen has become a popular therapy, but high-quality evidence for its benefit is not available. This study considered whether it would shorten time on oxygen. It was a randomized controlled trial set in Australia, and looked at 202 children <24 months of age and who had bronchiolitis. No difference was found between the groups on time to wean off oxygen. For the acute care provider, when considering where to send a child needing hospitalization for bronchiolitis it appears high-flow humidified oxygen does not need to be considered.

Assessing the Rate of Acute Bacterial Meningitis in Infants

Key point: Acute bacterial meningitis occurrence is low in infants with UTI.

This study looked at the rate of acute bacterial meningitis (ABM) in infants found to have urinary tract infections. This was a retrospective cross-sectional study that included 236 infants <30 days of age. ABM was defined as growth of pathogenic bacteria in cerebrospinal fluid (CSF) culture, and probable ABM if pleocytosis with ≥20 white blood cells was present in an antibiotic pretreated patient. No patient had ABM by culture, and only two (0.8%) had probable ABM. The authors concluded that ABM was low in patients with UTI, noting that these are the most common cause of fever in neonates. The authors speculate that as the collection of CSF already is variable, this may assist in this choice. For the urgent care provider, the biggest reminder is the importance of urine as a source of infection in young children, as well as general knowledge of what is being done with febrile infants today.

Examining Response to Previous Ebola Outbreaks

Key point: Lots of analysis post Ebola, but action might be lacking.

This article discusses analysis and suggested reforms in the wake of Ebola outbreaks. According to the authors, 11,000 deaths were directly attributed to the outbreak. Over 40 target examinations of the outbreak were performed. As a whole, these publications generally agree. Unfortunately, the suggested actions have not yet been taken. Some of these include compliance with WHO international health regulations, assuring trade and travel restrictions are justified, reporting outbreaks swiftly, and addressing issues with the WHO itself. Although these issues do not directly affect urgent care, the general categories and need for cooperation and good systems for response—as well as the knowledge that the most recent outbreak will not be the last—should make us think about how we can function as a group, whether through UCAOA or our local health authorities. This should be planned now before we have another emergency or outbreak.
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An Uncommon Mechanism for Work-Related Total Achilles Tendon Rupture

Urgent message: An uncommon mechanism of injury should not distract from an otherwise fairly common presentation—in this case, one that warranted referral and, ultimately, surgery.

ZEKE J. MCKINNEY, MD, MHI, MPH, JONATHAN R. SWAN, and RAECHEL BAKER, MMS, MPH, PA-C

Introduction

Achilles tendon (AT) ruptures account for approximately 40% of all operative tendon repairs.1,2 With 18 ruptures per 100,000 people, it is the most frequently ruptured tendon—and the incidence of AT ruptures has been steadily increasing over the past few decades.1–4 Typical patients include athletic males between the ages of 30 and 50.3 Because the AT is the strongest, yet most frequently ruptured tendon in the body, the pathophysiology of these ruptures has been studied at length. Some classes of drugs, such as fluoroquinolones or anabolic steroids, are well understood to disrupt tendon strength and increase the likelihood of rupture.

Case Description

The patient, a 30-year-old male who works for a local parks and recreation department, presented to the occupational medicine clinic for evaluation of a left ankle injury sustained when he was hit on the posterior left ankle by a basketball while he was planting his left foot and preparing to push off. He reports feeling a “pop,” accompanied by severe pain and numbness on the back of his ankle and foot. Pre-evaluation treatment included icing his left ankle, which relieved some pain and numbness. The patient presented to clinic on the day of injury with significant posterior left ankle swelling without ecchymosis. The left posterior ankle was tender to palpation, and a palpable defect was noted in comparison with the right. Limited, painful plantar and dorsiflexion were noted, as well, along with no Achilles reflex of the left ankle, and decreased strength. Sensation and circulation were intact. A Thompson test was positive on the left. After being evaluated at the clinic, the patient was referred to an orthopedist and a magnetic resonance imaging (MRI) study was ordered; this confirmed a complete Achilles tendon rupture.

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**Discussion**

**Pathophysiology**

A recent review of AT ruptures by Longo, et al proposes both degenerative and mechanical theories as the causes of nondrug AT ruptures. The degenerative theory states that asymptomatic and chronic degeneration of the AT associated with age predisposes the AT to rupture, even without severe force applied to the tendon. The mechanical theory suggests that AT rupture can occur due to nondegenerative acute and subacute microtrauma and microruptures of the tendon, causing failure under a high degree of stress. The proposed mechanical theory is consistent with the most common mechanism of an AT rupture, which occurs when the muscle is maximally contracted and the tendon is obliquely loaded at a short initial length.

**Urgent Care Evaluation**

The urgent care evaluation of a suspected Achilles tendon rupture should incorporate a history including recent ankle injury with either trauma to the ankle or a “pushing off” mechanism of extreme plantarflexion where the patient felt or heard a “pop” in the back of the ankle. The provider should also assess any recent fluoroquinolone use. The physical exam should include assessment of both ankles, checking for a visual or palpable defect of the ankle such as swelling, ecchymosis, and/or a lack of tension over the Achilles tendon. The exam should also include a Thompson test, which is performed by squeezing the gastrocnemius of the affected limb and observing for plantarflexion. Lack of plantarflexion is a positive Thompson test, as the tear in the Achilles tendon prevents the mechanism of the tendon from pulling on the flexor tendons in the foot. Sensitivity and specificity for this test are 0.96 and 0.93, respectively, such that it is an effective tool to evaluate for an AT rupture.

**Management**

Management of an AT includes a short leg splint placed posterior to the ankle, extending from the upper calf to the toes. The angle of the splint should be at 135° so that the ends of the Achilles tendon tear are closer together when immobilized, as this can aid in the healing process. The patient should also be given crutches with instructions on non-weight-bearing ambulation of the affected foot. NSAIDs or, less preferably, narcotic pain medication may be prescribed for about 3 days, with urgent orthopedic surgeon referral given for further evaluation and treatment within 3 days.

Supplemental imaging with ultrasound by trained personnel or with MRI can be helpful in determining a partial thickness vs a full thickness tear. Orthopedic referral is necessary in all AT ruptures for management and evaluation for surgery.

After surgery, 6-8 weeks of casting followed by up to 6 months of therapy is usually necessary.

**Case Discussion**

While Achilles tendons tears are not particularly uncommon as a work- or sports-related injury, the reported mechanism of injury for this case, specifically that the tendon rupture was caused by direct impact of a basketball to a planted and isometrically contracted ankle, is a previously unreported mechanism for this injury. With nearly 53% of AT ruptures occurring during a weight-bearing planted foot pushing off from the ground, this case presents an unusual combination of the planted food bearing weight in combination with a direct trauma to the posterior AT.

The MRI was used as an additional diagnostic tool in this case to ensure this uncommon mechanism of injury had indeed led to a total AT rupture. However, Garras et al showed that an MRI of the AT is not necessary or more sensitive than physical examination tests, which include an abnormal Thompson test, decreased resting tension, and a palpable defect.

**Conclusion and Teaching Points**

- The typical presentation of an Achilles tendon rupture is a male, aged 30-50, who is intermittently active with high intense physical activity, or a patient who recently had fluoroquinolone use or a corticosteroid injection of the ankle.
- A recent ankle injury with either trauma to the ankle or a “pushing off” mechanism where the patient felt or heard a “pop” in the back of the ankle should raise suspicion for an Achilles tendon rupture.
- Diagnostic examination findings include a positive Thompson test, decreased resting tension of the ankle, and a palpable defect on the posterior ankle.
- Imaging studies can be deferred prior to orthopedic evaluation if the history and clinical examination are suggestive of an Achilles tendon rupture.

**References**

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**Dull, Constant Back Pain After a Fall**

**Figure 1.**

**Case**

A 67-year-old male presents with acute mid-low back pain following a fall. He describes the pain as “dull and constant.” When asked if the pain is worse with range of motion, he replies, “I think so.”

Physical exam reveals he is afebrile, has a pulse of 102, respirations 20, and blood pressure 122/78. His abdomen is soft and nontender without rigidity, rebound, or guarding; there is no bruising or distention. His back appears normal, though there is mild discomfort with deep palpation in the right low back musculature. The patient denies any pain with motion of the torso. There is no rash or evidence of zoster.

View the image taken (Figure 1) and consider what your diagnosis would be. Resolution of the case is described on the next page.
The differential diagnostic considerations for back pain are broad, and are generally divided into mechanical and nonmechanical:

- Mechanical: Lumbosacral strain, herniated nucleus pulposus, epidural compression syndrome, vertebral fracture.
- Nonmechanical: Renal cell carcinoma, pyelonephritis, ureterolithiasis, zoster, retrocecal appendix, abdominal aortic aneurysm.

**Diagnosis**

The patient has an abdominal aortic aneurysm (AAA). In the x-ray, curvilinear calcifications are seen anterior to the lumbar spine. These outline the aorta. There is moderate spondylosis at the L5-S1 level, with disc space narrowing. There is no vertebral fracture or focal bone lesion.

**Learnings**

AAAs occur most commonly over age 50, in men and in patients with a history of hypertension or smoking.

AAA is diagnosed as localized enlargement of the aorta with a diameter >3 cm, or more than 50% larger than normal diameter. There is no role for “therapeutic radiation” with the assessment of nontraumatic back pain.

**Pearls for Initial Management and Considerations for Transfer**

The classic “triad” of AAA (abdominal pain, hypotension, and pulsatile abdominal mass) is present less than 50% of the time. Surgery is usually recommended with an AAA >5.5 cm in males and >5.0 cm in females.

Urgent care clinicians should transfer patients with new diagnosis of AAA and back pain, hypotension, tachycardia, or diagnostic uncertainty.

**Acknowledgment:** Image courtesy of Teleradiology Specialists.
C O D I N G  Q & A

Coding for Critical Care Services

DAVID E. STERN, MD, CPC

Q Can we bill for critical care services when spending extra time with patients who are very ill?
A It is rare that you would perform billable critical care services in the urgent care setting. According to the Centers for Medicare and Medicaid Services (CMS) and the American Medical Association (AMA), critical care is defined as the direct delivery by a physician(s) of medical care for a critically ill or critically injured patient. A critical illness or injury acutely impairs one or more vital organ systems such that there is a “high probability of imminent or life-threatening deterioration” in the patient’s condition. They further define critical care as involving high-complexity decision making to assess, manipulate, and support vital system function(s) to treat single or multiple vital organ system failure and/or to prevent further life-threatening deterioration of the patient’s condition.

A few examples of vital organ system failure include central nervous system failure, circulatory failure, shock, renal failure, hepatic failure, metabolic failure (eg, hypothermia, acidosis, coagulopathy), and respiratory failure.

Critical care services must be medically necessary and reasonable, while also meeting all criteria noted above. If critical care is provided in a moment of crisis or the provider is called to the patient’s bedside emergently, this is not considered as providing critical care. The key factor is the provider’s deliverance of the treatment and management of the patient’s condition based on the threat of imminent deterioration (ie, the patient is critically ill or injured at the time of the visit). Therefore, providing medical care to a critically ill patient should not be automatically deemed to be a critical care service.

Services that do qualify as critical care when performed in the outpatient or office setting during the critical period by the provider of the critical care are:

- Interpretation of cardiac output measurements (Current Procedural Terminology [CPT] codes 93561, 96562)
- Chest x-rays, professional component (CPT codes 71010, 71015, 71020)
- Pulse oximetry (CPT codes 94760, 94761, 94762)
- Blood gases, and analysis of clinical data stored in computers (eg, ECGs, blood pressures, hematologic data [CPT code 99090])
- Gastric intubation (CPT codes 43752, 73753)
- Temporary transcutaneous pacing (CPT code 92953)
- Ventilator management (CPT codes 94002-94004, 94660, 94662)
- Vascular access procedures (CPT codes 36000, 36410, 36415, 36591, 36600)

Critical care is a time-based service where the provider must document the total time spent for each date and encounter in the patient’s medical record.

Time spent providing critical care services does not have to be face-to-face, and does not have to be continuous. Time can be reported when the provider is engaged in work directly related to the patient’s care on the floor or unit, as long as the provider is immediately available for the patient. For example, time spent reviewing test results, discussing the critically ill patient’s care with other medical staff, or documenting critical care services can be reported, as long as these are performed on the unit or floor where the patient is located. Also, when the patient is unable or lacks capacity to participate in discussions, time spent with family members or surrogate decision makers obtaining a medical history, reviewing the patient’s condition or prognosis, or discussing treatment can be reported, provided the discussion bears directly on the management of the patient and, again, is performed on the unit or floor where the patient is located. Time spent transporting a critically ill or critically injured patient from one facility to another can also be counted toward the total time.

For any given period of time spent providing critical care services, the provider must devote his or her full attention to the patient and, therefore, cannot provide services to any other patient during the same period of time.

Time spent on evaluation and management (E/M) services performed on the same patient, on the same day as critical care services prior to or after the patient becoming critically ill or injured, should not be counted toward critical care time. CMS advises that providers billing for an E/M service with...
Critical care service(s) on the same date of service must submit supporting documentation. Although it is rarely appropriate to use time to determine the level of E/M in the urgent care setting, E/M services codes already reflect an element of time. For example, the AMA has assigned a typical time of 40 minutes to a level 5 visit for an established patient in an office (99215). Thus, if the physician spends 60 minutes caring for a patient who requires critical care services, the first 40 minutes count toward the E/M (99215), and the next 20 minutes toward critical care services. Since the minimum threshold to use 99291 (“Critical care, evaluation and management of the critically ill or critically injured patient; first 30-74 minutes”) is 30 minutes, this code would not apply. Because it would be extremely rare for a clinician to spend more than 60 minutes providing critical care in the urgent care setting, critical care codes very rarely apply to services rendered in an urgent care.

Critical care CPT codes for reporting are 99291, “Critical care, evaluation and management of the critically ill or critically injured patient; first 30-74 minutes” as noted above and 99292, “Critical care, evaluation and management of the critically ill or critically injured patient; each additional 30 minutes (List separately in addition to code for primary service).” CPT code 99292 must be used in conjunction with 99291. See Table 1 for the calculation of time and coding.


<table>
<thead>
<tr>
<th>Table 1. Total Duration of Critical Care Codes</th>
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<tr>
<td>&lt;30 minutes</td>
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<td>30–74 minutes (30 minutes–1 hour 14 minutes)</td>
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<td>75–104 minutes (1 hour 15 minutes–1 hour 44 minutes)</td>
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<td>105–134 minutes (1 hour 45 minutes–2 hours 14 minutes)</td>
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<td>135–164 minutes (2 hours 15 minutes–2 hours 44 minutes)</td>
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<td>165–194 minutes (2 hours 45 minutes–3 hours 14 minutes)</td>
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<tr>
<td>≥195 minutes (3 hours 15 minutes–etc.)</td>
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</tbody>
</table>

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Medical assistants (MAs) are the core of urgent care’s clinical support workforce (as noted in Cost Effective Staffing with Medical Assistants in the January, 2017 edition of JUCM; see http://www.jucm.com/cost-effective-staffing-medical-assistants/). However, according to the Bureau of Labor Statistics, demand for MAs is expected to outstrip supply over the next decade, just as the aging baby-boom population will increase demand for physician services—especially in the primary care setting, where the bulk of MAs work. For urgent care operators, a 23% increase in demand for MAs (compared with 7% for all other occupations) will lead to greater turnover and longer lead times for recruiting; it will also enable medical assistants to command higher salaries and benefits, adding to an urgent care center’s staffing expense. That, in turn, is expected to spur urgent care operators to try technology solutions to reduce the amount of staff time spent on administrative tasks.

### DEMAND FOR MEDICAL ASSISTANTS WILL OUTSTRIP SUPPLY BY 2024

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<th>Year</th>
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<tr>
<td>2019</td>
<td>750,000</td>
</tr>
<tr>
<td>2020</td>
<td>800,000</td>
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### Table 1. Predicted U.S. Demand for Medical Assistants Through 2024

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<th>Year</th>
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<th>Bottom 25%</th>
<th>Median</th>
<th>Top 25%</th>
<th>Top 10%</th>
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<td>$14.71</td>
<td>$17.69</td>
<td>$21.10</td>
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### Table 2. U.S. Pay Range for MAs (Median)

- **MA Annual Wage**
- **MA Hourly Wage**

Wage range from $10.60 to $21.10 per hour.
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