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THE JOURNAL OF URGENT CARE MEDICINE®
JANUARY 2017
VOLUME 11, NUMBER 4
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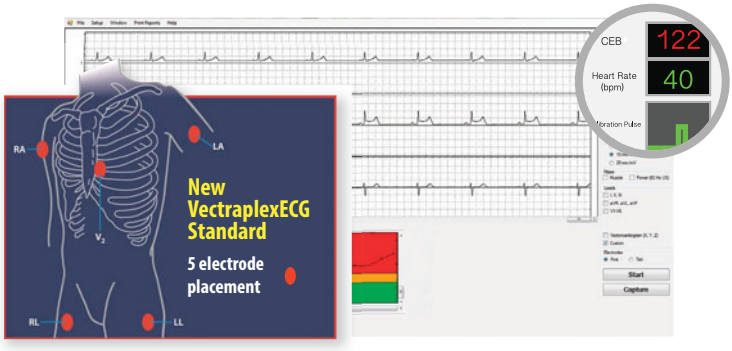

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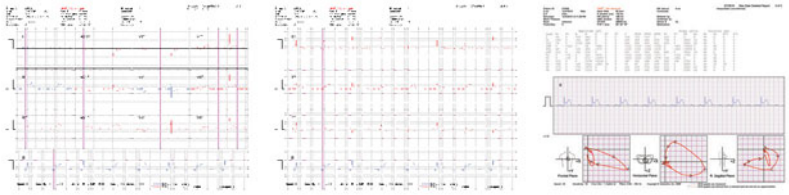

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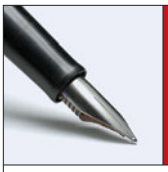
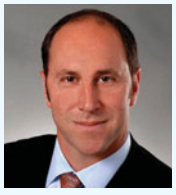


LETTER FROM THE EDITOR-IN-CHIEF

How to Avoid Burnout? The Answer Is in the Exam Room



Much has been written of late regarding physician burnout. And why not? The rates of burnout are astronomical and the consequences are scary. Consider these statistics: *Medscape Physician Lifestyle Report 2015* notes that almost half of physicians report experiencing burnout. The *Physicians Foundation's 2014 Survey of America's Physicians* reveals that physicians are far more likely to burn out than professionals in any other line of work, and that only 40% of physicians over 46 years of age describe their professional morale to be even *somewhat* positive.

By far, the most consistent and alarming driver of burnout is *loss of control*—and it's hitting our profession from every angle. Every regulation, compliance requirement, hospital mandate, "standard operating procedure," and reimbursement rule saps the positivity and distracts the purpose from our profession. Every patient satisfaction survey, utilization review, payer denial, MACRA, MIPS, and PIPs sucks the last drops of joyful energy we have left in our chosen profession.

As a clinical manager, I know this. Because I enforce every single one of these, every day, to the dismay of my colleagues who are desperately clinging to even a semblance of control. You see, any organization or business must manage to eliminate or at least minimize the outliers. By the very nature of the number of people you employ, you are trying to manage a risk pool, and the only way to do that is to mandate compliance with every rule and regulation, and every consumer expectation, so as to mitigate the damage an outlier could cause. Consequently, the individual providers necessarily lose their freedom to make independent decisions in most every area in which there is exposure for the group. This is an inescapable reality that will follow you wherever you go.

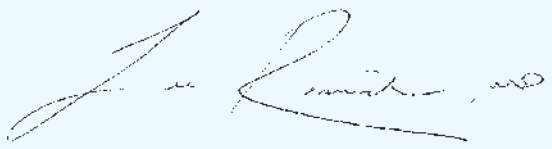
But, it's not *all* gloom and doom. There are strategies we can implement to tackle burnout and regain control in our individual practices. Research shows that if we protect 10% to 20% of our time for something we are passionate about, then the risk of burnout decreases dramatically (Shanafelt T. *Arch Intern Med*. 2009;169(10):990-995).

To achieve this, we may need to change our focus a bit. Let's stop deliberating about all the things we no longer control in our practices (the 80%) and learn how to celebrate what we still control (the 20%). Despite all the steps we have to take to survive in practice, there remains one step of every encounter that is wholly owned and impenetrable. It's the doctor-patient relationship, of course! This is the 10-15 minutes of every 60-minute encounter that we control. If we choose to focus on what we do best, we can make a difference in the life of every patient we see. It need not be dramatic, but it should be consequential. Perhaps it's as simple as validation of the life challenges underlying, or contributing to, nearly every visit. Perhaps it's identifying an opportunity to link behavior, stress, and illness. Perhaps it's actually a chance to make a clinically significant intervention.

"There are strategies we can implement to tackle burnout and regain control."

Whatever it is, seize the moment. Grab control of what you can and forget the rest, if only for a few minutes. You will be rewarded with gratitude and a flood of meaningful encounters. Your patients will be surprised that you care this much (shocking, but true). And you will actually be making a difference again.

This is your opportunity if you choose to take it. No one is going to hand you your profession back, and no one is going to *give* you control. You have to take it where you can. The 80% will consume you if you're not careful. While you can't ignore it, you *can* manage through it, controlling your emotions and conserving your energy for the 20%. ■



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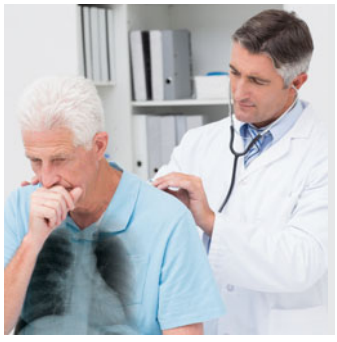

CLINICAL

IN THE NEXT ISSUE OF *JUCM*

Incidence of community-acquired pneumonia peaks in the winter months, and often is linked to seasonal influenza. Recognizing the signs quickly in the urgent care center can help reduce mortality. Read how in a new article by Glenn Harnett, MD and Jill Sellers, PharmD.

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Mission Statement
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 Urgent Care College of Physicians, *JUCM* seeks to provide a forum for the exchange of ideas and to expand on the core competencies of urgent care medicine as they apply to physicians, physician assistants, and nurse practitioners.

Affiliations
JUCM The Journal of Urgent Care Medicine (www.jucm.com) is published through a partnership between Braveheart Group, LLC (www.braveheart-group.com) and the Urgent Care Association of America (www.ucaoa.org).

Address Changes
JUCM (ISSN 1938-002X) printed edition is published monthly except for August for $50.00 by Braveheart Group LLC, 185 State Route 17, Mahwah, NJ 07430. Standard postage paid, permit no. 372, at Midland, MI, and at additional mailing offices. POSTMASTER: Send address changes to Braveheart Group LLC, 185 State Route 17, Mahwah, NJ 07430. Email: address.change@jucm.com

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We've read a lot over the past year about physician burnout—who's at risk, the fallout, the chief causes. What we haven't read much about is what you can do, today, to prevent suffering burnout yourself. That changes in this issue of *JUCM*, as Editor-in-Chief **Lee Resnick, MD, FAAFP** looks at how to avoid burnout in the urgent care setting. (Spoiler alert, straight from Dr. Resnick's column: The answer is in the exam room.)



Something else we don't read much about is how urgent care clinicians treat patients with cancer—not *for* cancer, mind you, but *with* cancer. Cancer patients need a lot of care beyond chemotherapy, biological therapy, radiation.... Those life-saving treatments have side effects that can pose serious risks in themselves; sometimes cancer patients need care immediately and, just like the typical patient with a URI, they can't get in to see their regular provider and don't need to go to the emergency room. So, **Drew A. Long, BS**; **Brit Long, MD**; and **Alex Koyfman, MD** contributed an article that covers some of the scenarios you're most likely to face when a patient with cancer walks into your exam room. An Urgent Care Approach to Malignancy Complications starts on page 11.

The three authors have collaborated numerous times, including on An Urgent Care Approach to Burns, the cover story of our November 1, 2015 issue. Mr. Long studies medicine at Vanderbilt University School of Medicine; Dr. Long is chief resident in the Department of Emergency Medicine at San Antonio Military Medical Center at Fort Sam Houston, TX; and Dr. Koyfman is an assistant professor in the Department of Emergency Medicine at the University of Texas Southwestern Medical Center in Dallas.




Orthopedic presentations are much more common in urgent care, of course. That doesn't mean every case is common, however. Quadriceps tears would be one example of an atypical diagnosis. The problem is that they're easy to misdiagnosis, which leaves patients at increased risk for poor outcomes. Getting the correct diagnosis early on improves the chances of a full recover dramatically, according to authors **Mark Ciagne, MD**, an occupational medicine clinician with HealthPartners; **Jonathan Swan**, a first-year medical student at A.T. Still University School of Osteopathic Medicine in Arizona; **David L. Parker, MD**, also an occ med practitioner with HealthPartners; and **Zeke J. McKinney, MD, MHI, MPH**, a faculty physician in occupational and environmental medicine and a clinical researcher at HealthPartners in St. Paul, MN. Their case report, Initially Missed Diagnosis of Quadriceps Partial Tendon Tear, can be found on page 32.

Regardless of how common or uncommon a case is, a smooth-flowing operation is required to ensure all patients get the best urgent care possible. Medical assistants can contribute greatly to a center's efficient and high-quality service—assuming they've been trained properly and are assigned the right tasks. **Alan Ayers, MBA, MAcc** offers insights on how to get the most out of employing medical assistants in Cost-Effective Staffing with Medical Assistants (page 25). Mr. Ayers is vice president of strategic initiatives for Practice Velocity, LLC and practice management editor of *The Journal of Urgent Care Medicine*.

We haven't forgotten this is a new year, by the way, so this issue's Health Law & Compliance department features a guest contribution by **Camille S. Bonta, MHS**, who discusses what to expect on the legislative front in 2017. Her insightful article, Navigating Around Legislative Obstacles and Proving Value in 2017, starts on page 18. Ms. Bonta is the principal of Summit Health Care Consulting in Breckenridge, CO.

Also in this issue:

Sean M. McNeeley, MD explains the urgent care relevance of newly published articles about how much time patients think is "enough" to spend with a provider; responsible use of antibiotics; what guidance the new gout guidelines have for urgent care; a comparison of the cardiovascular safety of three nonsteroidal anti-inflammatory drugs; and more.

In *Coding Q & A*, **David E. Stern, MD, CPC**, tells you about changes to CPT codes for 2017—which you'll need to know if you want to ensure full reimbursement for all the services your center provides.

Finally, *Developing Data* reveals the top 100 urgent care centers in the United States. Go to page 44 to see if your urgent care operation is on the list. ■

CONTINUING MEDICAL EDUCATION

Release Date: January 1, 2017
Expiration Date: December 31, 2017

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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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

***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.**

An Urgent Care Approach to Malignancy Complications (p. 11)

1. **How many cancer deaths occur per year in the United States?**
   a. 1,000
   b. 10,000
   c. 50,000
   d. 100,000
   e. 580,000

2. **Which of the following are true, regarding febrile neutropenia in a patient receiving cytotoxic medications for cancer?**
   a. The Infectious Diseases Society of America (IDSA) defines fever in neutropenic patients as a single oral temperature >38.3°C (101°F) or temperature >38°C (100.4°F) for 1 hour
   b. While cytotoxic medications destroy cancerous cells, they may cause bone marrow suppression
   c. Neutropenia is defined as an absolute neutrophil count (ANC) of <1500 cells/μL, with *severe* defined as an ANC <500 cells/μL or an expected drop to <500 over 48 hours
   d. In addition to suppressing bone marrow, cytotoxic chemotherapy drugs may damage the mucosal lining of the gastrointestinal tract, providing a portal for entry for bacteria and the development of bacteremia and septicemia
   e. All of the above

3. **All of the following are true regarding superior vena cava (SVC) syndrome, except:**
   a. SVC syndrome results from obstruction of blood flow through the SVC, which can be caused by either internal vascular invasion or external compression
   b. The most common types of malignancy associated with SVC syndrome are non-small-cell and small-cell lung cancer, followed by lymphoma
   c. The most common symptoms and signs of SVC syndrome include dyspnea, cough, chest and shoulder pain, hoarseness, dysphagia, facial edema, distended neck veins, superficial chest veins, arm edema, and facial plethora
   d. Intravascular devices never cause SVC syndrome

Cost-Effective Staffing with Medical Assistants (p. 25)

1. **Which of the following is the largest expense in urgent care operations?**
   a. Medical supplies costs
   b. Marketing costs
   c. Occupancy costs
   d. Labor costs
   e. None of the above

2. **Which of the following are advantages in utilizing medical assistants (MA) in the clinical support staffing model?**
   a. A medical assistant staffing model improves working capital
   b. Medical assistants can perform many of the clinical tasks of a radiologic technician, phlebotomist, and lab tech at a lower hourly rate
   c. Medical assistants can be presented to customers or patients as a licensed practitioner
   d. A and B
   e. All of the above

3. **Which of the following are drawbacks of the MA staffing model?**
   a. A lot of time is invested in direct supervision and training of MAs
   b. High MA turnover rate
   c. Licensed physicians are legally and professionally responsible for the actions of the MA
   d. MAs can perform venipuncture
   e. A, B, and C

Initially Missed Diagnosis of Quadriceps Partial Tendon Tear (p. 32)

1. **Which of these mechanisms of injury would raise suspicion for a quadriceps tendon tear?**
   a. Direct trauma to the thigh
   b. Direct trauma to the anterior knee
   c. Direct trauma to the posterior knee
   d. Tripping and falling onto the knee
   e. Missing a step and planting the foot forcefully

2. **Which clinical finding is most suggestive of a complete quadriceps tendon tear**?
   a. Inability to fully extend the knee
   b. Inability to fully flex the knee
   c. Inability to bear weight on the leg
   d. Inability to fully flex the hip
   e. Inability to fully extend the hip

3. **When is the appropriate time for surgical repair of quadriceps tendon tears?**
   a. Within 1-2 weeks post-injury
   b. Likely not required
   c. Within 1-2 weeks post-injury if a complete tear, likely not required if a partial tear
   d. Within 1-2 weeks post injury if a complete tear, within 3-4 weeks if a partial tear
   e. Within 1-2 weeks post-injury if a partial tear, within 3-4 weeks if a complete tear

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- **HUMANITARIAN**
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LAUREL STOIMENOFF, PT, CHC

We have heard some regulators express concerns that urgent care centers are unregulated, despite the fact that urgent care centers are subject to a myriad of regulatory and compliance mandates.

Our centers are subject to regulations from the DEA, CLIA, radiology boards, and individual licensing agencies. Additionally, the centers must be concerned about federal regulations related to fraud and abuse, safeguarding against kickbacks, patient inducement, self-referral, and a relatively new requirement from the Centers for Medicare and Medicaid Services (CMS) that physician offices have an internal compliance and ethics program if they elect to participate in Medicare and Medicaid programs. Centers are also subject to regulations defined by the Department of Labor and the Fair Labor Standards Act (FLSA). There are privacy and security regulations (HIPAA) regulated by the Office of Civil Rights, and regulations around document retention, reportable diseases, reporting child/elder abuse, timeliness of response to medical record requests, needle sticks, and animal bites.

Your payers may each establish separate and disparate criteria to secure in-network status. And now centers may suffer ongoing erosion in reimbursement—despite escalating costs—if they fail to report in accordance with CMS's quality criteria, which are more aligned with longitudinal care and wellness, vs episodic illness and injury.

This list is hardly exhaustive, and the regulatory and compliance environment can be so overwhelming that it simply becomes "noise." The operator's principal goal each day is to provide good care to patients, so the temptation is to simply default to the original doctrine of, "above all, do no harm" and ignore the rest. While a *back-to-basics* approach may seem alluring, it is ill advised; recent history tells us that the environment is likely to grow increasingly complex, and that complexity is often tied to financial viability in the form of either carrots or sticks. Even the most sophisticated operators will need the support of experts and colleagues to navigate the ongoing challenges of providing care to those who cross our threshold, whether physically or virtually.

The majority of these new or morphing regulations are not exclusive to urgent care, and many may not consider the nuances of the services we provide. So, how should we collectively respond to support each other and credibly advocate for the valued service we provide?

We Need to Hear From You

UCAOA board members, staff members, and committee volunteers have typically been involved one way or another in the day-to-day delivery of urgent care medicine, but we need to hear from all our members to ensure our finite resources are being deployed where they are most impactful and meaningful to you. There are so many ways to have a voice in the Association: Join us as a committee member, nominate yourself or a colleague for the Board of Directors, participate in the benchmarking survey, or respond to a call for speakers, to name just a few.

Share the Value of Membership

Advocacy efforts require the voices of many. This includes the ranks of our individual members, our member centers, and our vendors. When facing regulators and policymakers, we consistently quote our membership numbers—the many whose voices we represent. Center membership affords each center the opportunity to provide membership to *up to 10* individuals per center, yet many don't take advantage of this benefit, or they leverage association membership as an employee benefit. Once registered, these individuals have full member benefits, and UCAOA's advocacy efforts are strengthened by their inclusion. UCAOA will continue to advocate passionately at every level to ensure an environment conducive to ongoing growth and ready access to care. But, rest assured, there is real strength in numbers.

As 2017 begins, we thank you for your involvement in urgent care medicine and UCAOA. There may be no more vital time in our short, but explosive, evolution to come together. UCAOA's foundation is its members. It is a solid and strong base. We must continue to build upon it and ensure the voice of urgent care medicine is heard. ■

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

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See **CME Quiz Questions** on page 7.

An Urgent Care Approach to Malignancy Complications

Urgent message: The prevalence of cancer is increasing—and along with it, malignancy-associated complications. Early recognition and management of these conditions is vital to alleviating patient morbidity and maximizing quality of life.

DREW A. LONG, BS, BRIT LONG, MD, and ALEX KOYFMAN, MD

Introduction

Cancer is a leading cause of morbidity and mortality throughout the world, accounting for over 580,000 deaths in 2013 in the U.S.[1] With an aging population and more effective forms of treatment, the overall prevalence of cancer is increasing. Consequently, acute cancer-related complications are more common.[2] For many patients, an oncologic complication will be their initial manifestation of cancer.[3] Urgent care providers will be increasingly exposed to complications of cancer and cancer treatments, and it is paramount to recognize and know how to manage patients presenting with acute cancer complications. Early recognition and management can alleviate morbidity and sustain quality of life. This review will provide an overview of the pathophysiology, manifestations, and management of five common acute malignancy-associated complications: febrile neutropenia, superior vena cava syndrome, malignant spinal cord compression, malignancy-associated hypercalcemia, and venous thromboembolism.

Case Presentation

A 73-year-old man presents to an urgent care center complaining of shortness of breath. He states that the shortness of breath has worsened over the past several weeks, along with a feeling of facial fullness and increased cough. He has a history of non-small-cell lung cancer that is actively being treated with radiation and chemotherapy. Other than an oxygen saturation of 92% on room air, his vital signs are normal. The physical exam is notable for swelling of the face and elevated jugular venous distention.

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This leads to the following questions:

- What diagnoses are important to consider in this patient who is undergoing chemotherapy and radiation therapy for an already-recognized cancer?
- How can these conditions be diagnosed?
- How should this patient be managed?

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Table 1. MASCC Risk Index Score Breakdown	
Characteristic	**Weight**
Febrile neutropenia with no or mild symptoms	5
No hypotension	5
No COPD	4
Solid tumor or hematologic malignancy with no previous fungal infection	4
No dehydration requiring parenteral fluids	3
Febrile neutropenia with moderate symptoms	3
Outpatient status	3
Age <60 years	2
(Adapted from http://www.mascc.org/mascc-fn-risk-index-score)	

- When should patients presenting with suspected malignancy-associated complications be referred to a higher level of care?

Discussion

Febrile Neutropenia

Overview

Febrile neutropenia is a life-threatening complication of cytotoxic medications utilized to treat malignancy. The Infectious Diseases Society of America (IDSA) defines fever in neutropenic patients as a single oral temperature >38.3°C (101°F) or temperature >38°C (100.4 °F) for one hour.[4,5] While cytotoxic medications destroy cancerous cells, they may cause bone marrow suppression. While all cell lines can be affected, the reduction in neutrophils is most clinically important. Most chemotherapy regimens result in a neutrophil nadir 7-10 days after treatment.[6] *Neutropenia* is defined as an absolute neutrophil count (ANC) of <1500 cells/μL, with *severe* defined as an ANC <500 cells/μL, or an expected drop to <500 over 48 hours.[5] As the severity and duration of neutropenia increases, the likelihood for the development of bacteremia increases, and with it, the progression to sepsis.[7]

In addition to bone marrow suppression, cytotoxic chemotherapy drugs may damage the mucosal lining of the gastrointestinal tract.[4] This provides a portal for entry of bacteria and the development of bacteremia and septicemia.[6] Approximately 80% of identified infections are thought to arise from the patient's endogenous flora, with gram-positive sources most common.[7] Gram-negative infections possess greater severity (specifically, *Pseudomonas*).[7] Though less common, infections with fungal and viral pathogens also occur, more commonly after a prior episode of neutropenic fever.[6]

Patients with febrile neutropenia can be categorized into high and low risk groups. The Multinational Association for Supportive Care in Cancer (MASCC) risk index, (**Table 1**) is a validated tool utilized to calculate the risk of medical complications and to categorize patients.[4] Scores above 21 place patients at low risk, while a score below 20 categorizes patients as high risk. Low-risk patients are those with mild or no symptoms, no hypotension or evidence of chronic obstructive pulmonary disease (COPD), solid tumors or hematologic malignancies, no previous fungal infection, and <65 years old.[8] High-risk patients are those presenting with shock, ANC <500, ANC levels low for >7 days, or presence of organ dysfunction.[8]

Table 2. Antibiotic Regimens for Febrile Neutropenia[4,6-8,10]	
High risk	Broad-spectrum antipseudomonal penicillin *plus* aminoglycoside (hospital-dependent)
Low risk	Ciprofloxacin plus amoxicillin and clavulanate *or* Ciprofloxacin plus clindamycin
Skin/soft tissue/central line infection; pneumonia; mucositis; and/or shock present	Add vancomycin (if suspicious of gram-positive organism)

Presentation
All patients who have received chemotherapy within the last 4-6 weeks presenting with a fever or who generally feel unwell should be assessed for febrile neutropenia. Fever is often the earliest, and sometimes only, manifestation of an infection in these patients due to a diminished inflammatory response.[6]

Physical exam should focus on skin, catheter sites, oropharynx, sinuses, mucous membranes, heart, lungs, abdomen, and perianal area. A rectal exam should be avoided in these patients for fear of trauma to the rectal alimentary tract. The patient must be evaluated for any signs or symptoms of pneumonia. An abdominal exam should be performed to assess for any tenderness or peritoneal signs, which may signify typhlitis (necrotizing enterocolitis). Skin folds must be examined along with vascular access sites or surgical sites for erythema, tenderness, and discharge.[4]

Figure 1. Collateral vessel formation with resulting ecchymosis in a patient with SVC syndrome.

(Source: http://www.emdocs.net/oncologic-emergencies-part-i-pearls-and-pitfalls/)

Management
While most patients undergoing chemotherapy have instructions from their oncologist to present immediately to the emergency department (ED) if they have fever or feel unwell, urgent care providers must be able to rapidly identify and manage these patients. First, the patient's vitals (including temperature) should be obtained, along with intravenous (IV) access. Initial labs should include a complete blood count, blood cultures with lactate, urinalysis, renal function panel, and liver function panel.[4] Additionally, an electrocardiogram (ECG) and chest x-ray should be ordered. Patients with pneumonia may or may not have a consolidation on chest x-ray due to a muted immune response.[9]

The most important part in the management of these patients is rapid treatment with antibiotics. It is recommended that antibiotics be initiated within 60 minutes of presentation.[10] In the urgent care setting, any patient presenting with suspected neutropenic fever should be given fluids and started on antibiotics and transferred to the nearest ED with access to oncology. **Table 2** shows antibiotic regimens for patients with neutropenic fever, based on risk assessment.

Patients who identified as low risk may qualify to be treated on an outpatient basis. The success rate in these patients is around 80%, with 20% requiring readmission.[4] Patients at increased risk include those older than 70 years, severe mucositis, poor performance status at home, and neutropenia <100 cells/μL.[11] Collaboration with the patient's oncologist is required in determining patient disposition.

Superior Vena Cava Syndrome

Overview
Superior vena cava (SVC) syndrome results from obstruction of blood flow through the SVC, which can be caused by either internal vascular invasion or external compression.[12,13] The majority of cases are due to malignancy, but up to 40% are due to intravascular devices.[14,15] The most common types of malignancy associated with SVC syndrome are non small-cell and small-cell lung cancer, followed by lymphoma.[12,13]

Presentation
Symptom onset and severity depend on the degree and rate of obstruction.[13] Slower developing obstruction allows for venous collateral formation, which can decrease the severity of symptoms.[6] The most common symptom is dyspnea; cough, chest and shoulder pain, hoarseness, and dysphagia may also occur.[12,13] Signs of SVC syndrome include facial edema (most common), distended neck veins, superficial chest veins, arm edema, and facial plethora.[15] While uncommon, SVC obstruction and/or neck edema can be severe enough to impinge the airway, leading to need for airway sup-

Figure 2. MRI demonstrating multiple lesions in the lumbar spine with spinal cord compression

(Source: http://www.emdocs.net/oncologic-emergencies-part-i-pearls-and-pitfalls/)

port.[6,13] The urgent care physician must take note of this when examining the patient and carefully evaluate for signs of respiratory distress.

Diagnosis

Chest x-ray is abnormal in 84% of patients with SVC syndrome, often showing widening of the mediastinum and pleural effusion. The optimal imaging study is a CT of the chest with contrast. Collateral vessel presence on CT has a specificity for SVC syndrome of 96% and sensitivity of 92%.[13,15,16]

Management

If SVC syndrome is suspected, the patient should be transferred to the ED. Initial management consists of sitting the patient upright, administering oxygen, and initiating steroids.[6] Emergency management is usually not necessary, unless the patient has signs of airway compromise. The median survival period of patients with SVC syndrome due to cancer is about 6 months, but this is variable depending on the underlying malignancy.[12,13,17]

Malignant Spinal Cord Compression

Overview

Malignant spinal cord compression (MSCC) is a common cancer complication resulting from thecal sac impingement from an extradural mass.[18] It is estimated to develop in about 5% of cancer patients.[19] The three most common cancers leading to MSCC are lung, breast, and prostate cancer, each of which accounts for 20% of cases.[20] Multiple myeloma, non-Hodgkin lymphoma, and renal cell carcinoma each account for 5% to 10% of cases.[18] As the thoracic spine has the largest blood supply, the greatest number of vertebrae, and the least amount of space in the spinal canal, it is the most susceptible to compression.[13] Approximately 60% of lesions occur in the thoracic spine, 30% in the lumbar spine, and 10% in the cervical spine.[21]

Presentation

The most common symptom of MSCC is back pain, found in 80% to 95% of presentations; this often precedes the onset of other symptoms by several months.[12,13] Pain is typically progressive and may be exacerbated by coughing, sneezing, or bending.[6] Back pain that awakens a patient from sleep is concerning. While back pain is a common complaint in the urgent care setting, a presentation of back pain in a patient with a known cancer warrants investigation.

In addition to back pain, many patients will have neurological symptoms and signs. Weakness is present in up to 85% of patients and depends on the level of impingement. Sensory findings are less common than motor findings and may manifest as ascending numbness and/or paresthesias. Additionally, half of patients will have bowel and/or bladder dysfunction at presentation, but this is generally a later finding.[13,22]

Diagnosis

Any patient in whom MSCC is suspected must undergo urgent magnetic resonance imaging of the whole spine. Up to one third of patients will have multiple sites of metastasis and/or compression. In addition, post-void residual or ultrasound can be helpful during initial evaluation if bladder or bowel symptoms are present.[13]

Management

Prompt treatment of MSCC is key, as it can palliate pain and help prevent the progression of neurologic symptoms. If MSCC is suspected, the patient should be immediately transferred to a facility with a spine surgeon

and oncologist. Before transfer, initial management in these patients consists of pain management and high-dose steroids if severe neurologic deficits such as paraparesis or paraplegia are present.[13] Even with proper management, the prognosis for patients with MSCC is poor, with a median survival of 3-6 months and a 1-year survival rate of 30%.[6]

"While patients with moderate hypercalcemia may not require immediate treatment, collaboration with the patient's oncologist to determine course of action is warranted."

Malignancy-Associated Hypercalcemia

Overview

Malignancy-associated hypercalcemia (MAH) occurs in 20% to 30% of cancers.[12,23] Calcium homeostasis is maintained by multiple mechanisms: intestinal absorption, bone resorption, and renal excretion. Parathyroid hormone (PTH) acts to increase calcium resorption from bone, increase activation of calcitriol (active vitamin D) from calcidiol (inactive vitamin D), and promote calcium absorption and phosphate excretion from the kidneys. The most common mechanism leading to MAH is secretion of parathyroid hormone-related protein (PTHrP) by tumor cells.[6,12,13,23] PTHrP can be produced by squamous cell carcinoma and lymphoma and accounts for about 80% of MAH.[13,23] The second most common mechanism of MAH is osteolysis resulting from bone metastases.[6,13] The most common cancers with bone involvement are breast, lung, and multiple myeloma.[13]

Presentation

Symptoms are non-specific and include dehydration, polydipsia, fatigue, confusion, nausea/vomiting, constipation, and muscle weakness.[13] The classic description of the symptoms from hypercalcemia is "stones, bones, groans, and psychiatric overtones." Patients with severe hypercalcemia can present with life-threatening complications such as acute pancreatitis, acute renal failure, or coma.[6] ECG changes can also occur, including bradycardia, prolonged PR, widened QRS, and/or shortened QT interval.[24]

Diagnosis

MAH can be categorized on the level of severity of the hypercalcemia, specifically the total serum calcium level: mild (10.5-11.9 mg/dL), moderate (12.0-13.9 mg/dL), or severe (≥14.0 mg/dL).[12] In addition to calcium levels, other laboratory studies to order in these patients include PTH concentration, a complete blood count with differential, electrolytes, renal and liver function tests, and phosphate and magnesium.[6,12] A chest x-ray is helpful, as squamous cell carcinoma of the lung is the most common cause of MAH.[6]

Management

Hydration is the cornerstone of treatment for hypercalcemia. Treatment of patients with hypercalcemia depends on severity. Patients with mild hypercalcemia with no symptoms can be sent home with instructions to hydrate and follow up with their oncologist. While patients with moderate hypercalcemia may not require immediate treatment, collaboration with the patient's oncologist to determine course of action is warranted. Patients with severe hypercalcemia should receive initial treatment and be transferred to a higher level of care. Patients with symptomatic moderate to severe hypercalcemia should be initiated on crystalloids at a rate of 200-300 mL/hr.[13] For patients with severe hypercalcemia, further treatment consists of calcitonin and bisphosphonates. Calcitonin is the fastest acting medication and is given at a dose of 4 IU/kg intramuscularly.[13] The mainstay of therapy (besides hydration) is the bisphosphonates, pamidronate and zoledronate. These medications bind to hydroxyapatite and inhibit bone crystal dissolution and osteoclast resorption.[25] In addition to calcitonin and bisphosphonates, patients may need dialysis if they have neurological deficits and a calcium level of ≥18 mg/dL.[13] Loop diuretics are not indicated in these patients unless they have renal or heart failure.[13] Unfortunately, the prognosis is poor in these patients, with half of all patients dying within a month of diagnosis of MAH.[26]

Venous Thromboembolism

Overview

The pathogenesis of venous thromboembolism is outlined by Virchow's triad, consisting of alternations of blood flow (stasis), vascular endothelial injury, and a hypercoagulable state. Patients with cancer are at an increased risk of venous thromboembolism (VTE) due to a hypercoagulable state stemming from production of procoagulants.[27] VTE is estimated to be clinically sig-

Table 3. Risk Factors for VTE[4]	
Patient-related	Age, obesity, history of smoking, decreased mobility
Cancer-related	Type of cancer*, stage, histologic type,
Treatment-related	Anticancer medications, radiation, history of recent surgery, presence of peripheral line
Biochemical-related	Hemoglobin <10, WBC>11x10^9/L, platelets >350x10^9/L

*Brain, stomach, lung, pancreas, renal, uterus, and bladder cancers have highest rate of VTE.

nificant in up to 15% of cancer patients.[28] Risk factors are detailed in **Table 3**.

The Khorana score, shown in **Table 4**, is well-validated in the cancer-patient population. Literature supporting the use of Wells or Geneva in this population is lacking.[29]

Table 4. Khorana Score	
Risk Factor	**Points**
Primary tumor site Very high risk: stomach, pancreas High risk: lung, lymphoma, gynecologic, bladder, testicular All other sites	 2 1 0
Prechemotherapy platelets count ≥350,000/μL	1
Hemoglobin level <10 g/dL or use of RBC growth factors	1
Prechemotherapy WBC >11,000/μL	1
BMI ≥ 35 kg/m^2	1

(Adapted from http://www.current-oncology.com/index.php/oncology/article/view/1938/1537, http://www.uptodate.com.proxy.library.vanderbilt.edu/contents/image?imageKey=HEME%2F73002&topicKey=HEME%2F1352&rank=1~2&source=see_link&search=khorana+score&utdPopup=true)

Presentation

There are two major clinical manifestations of venous thromboembolism in the cancer population: deep vein thrombosis (DVT) and pulmonary embolism (PE). A DVT occurs when a thrombus forms in one or more deep veins. PE occurs when the thrombus embolizes to the pulmonary arteries and occludes blood flow from the right ventricle. DVTs can be difficult to diagnose, as many of the classic signs and symptoms may not be present. The classic presentation of DVT is swelling, pain, and erythema of the affected leg.[30] These are suggestive for DVT but not diagnostic. Homan's sign of pain on dorsiflexion of the foot with an extended knee is classic, but not reliable.[30] Clinical suspicion is often based on the history and risk factors rather than the presentation. PE can present with a wide variety of symptoms. The classic presentation is a patient with dyspnea, tachypnea, and chest pain.[4] Patients may be asymptomatic and, as in DVT, clinical suspicion should be based on the presence of risk factors.

Diagnosis

VTE suspicion warrants transfer to a higher level of care. This facility must possess the necessary equipment to evaluate for VTE and subsequently manage this patient in an inpatient setting. If patient's presentation is concerning for PE, CT scan of the chest is necessary. A CT pulmonary angiogram is the definitive form of imaging to evaluate for a PE.[31] For DVT, in most situations compression ultrasonography is the preferred method for diagnosis.[4]

Management

The mainstay of therapy for VTE is anticoagulation with low molecular weight heparin.[4] Anticoagulation should be initiated immediately, as delay can lead to embolization.[32] Most patients will require admission. Outpatient therapy is not appropriate in patients with massive DVT, suspected PE, high bleeding risk, or other comorbidities.[33] It is essential to transfer these patients to an ED.

Case Resolution

The 73-year-old man whose case was described at the start of this article presented with signs and symptoms concerning for SVC syndrome. While dyspnea in this patient is also concerning for PE, several factors in the presentation, including the insidious onset of symptoms, are more suggestive of SVC syndrome. The patient was positioned upright and given supplemental oxygen and dexamethasone 4 mg IV. Chest x-ray demonstrated a widened mediastinum and pleural effusion. The urgent care provider called the patient's oncologist and explained his suspicion of SVC syndrome and the need to rule out PE. They agreed to transfer the patient to a center where he could receive imaging, exclude a PE, and initiate the work-up of his probable SVC syndrome.

"Recognition and early management of complications are vital while expediting transfer to a higher level of care."

Conclusion

As the prevalence of cancer increases, urgent care clinicians can expect to see more patients presenting with complications. Recognition and early management of these are vital while expediting transfer to a higher level of care. Of particular note in the urgent care setting:

- Febrile neutropenia is a concern in any patient undergoing chemotherapy, and antibiotics must be initiated promptly.
- SVC syndrome is a common complication of several types of cancer, and rapid identification can maintain a higher quality of life in these patients.
- Malignant spinal cord compression must be ruled out in any patient with a previously diagnosed cancer who presents with back pain; diagnosis and management can prevent neurologic impairment and disability.
- Malignancy-associated hypercalcemia occurs in approximately one quarter of cancer patients; fluids and bisphosphonates are the mainstays of treatment.
- VTE is a potentially life-threatening complication of cancer, and recognition and evaluation can be lifesaving.

While most of these oncologic emergencies are associated with a poor prognosis, rapid recognition and management are vital to minimize morbidity and sustain quality of life for these patients. ■

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Navigating Around Legislative Obstacles and Proving Value in 2017

Camille S. Bonta, MHS

Urgent message: The new year brings regulatory changes at the state and local levels. Urgent care operators need to navigate through them successfully to continue demonstrating value.

Urgent care in a shifting healthcare delivery environment brings to mind Shel Silverstein's children's classic, *The Missing Piece Meets the Big O*.

In that tale, the missing piece stands alone, waiting for someone to come along and take it somewhere. Various shapes come by, but none are quite right. Some could not roll. Some had too many missing pieces. Finally, a shape comes along that fits just right and they roll along until the missing piece begins to grow and they part ways. Then a full circle, "The Big O," comes along and the missing piece declares it is what it has been waiting for. The Big O, however, declares it is not missing a piece and that there is nowhere the piece would fit.

Ultimately, the piece learns how to roll *alongside* the Big O.

Just like that missing piece, urgent care centers have their own navigating to do—through consolidation, narrowing insurance networks, regulatory restrictions, and new payment models like accountable care organizations and medical homes. In the Silverstein story, the piece had to wear off its hard edges so it could roll. Urgent care centers must continuously demonstrate their value to the healthcare system if they are to keep rolling.

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The Year Ahead

State regulatory initiatives can offer opportunity for urgent care centers. More often than not, however, they have threatened patient access through policies such as certificate of need or other barriers; these include restrictive licensure or change of control requirements.

While the commercial payers currently dominate the payer mix of urgent care centers, changes to federal programs that favor urgent care open a window for urgent care centers to showcase their value to the non-federal payer community.

TRICARE

In 2016, Congress moved to capitalize on the cost-saving potential of urgent care centers to the TRICARE system—a health insurance program for military service members and their families—and momentum is building for congressional action in 2017 to improve urgent care access for our nation's veterans. Additionally, the Centers for Medicare and Medicaid Services (CMS) has created a cost-sharing structure within the insurance marketplace standardized plan offerings that encourages urgent care center use over hospital emergency departments.

MACRA

With passage in 2015 of the Medicare Access and CHIP Reauthorization Act (MACRA) and subsequent implementation of the new Medicare physician payment system, or Quality Payment Program, it is expected that states and Congress will turn their attention in 2017 to *Medicaid* reform. Thirty-two states (including the District of Columbia) have formally expanded Medicaid, while others continue to mull reform options (**Figure 1**). With a House Republican task force already considering reforms that may be possible in 2017, urgent care centers have an opportunity to position themselves in the reform debate, particularly as newly insured Medicaid patients report difficulty

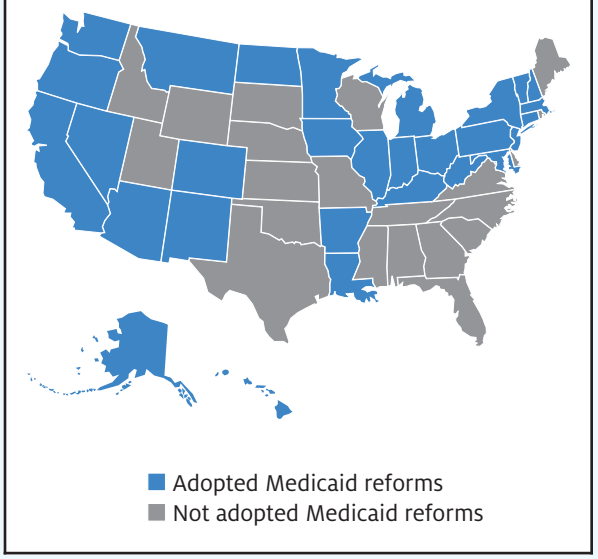
finding a primary care provider and as poor reimbursement to urgent care centers and other providers pushes patients into the emergency department.

ACA

Over the past few years, Republicans have voted nearly 70 times to repeal the Affordable Care Act (ACA). Expect 2017 to constitute the first substantive debate over changes to the law, which could suck much of the oxygen out of healthcare policy discussions.

We also anticipate efforts to address the struggling healthcare exchanges over the next year. With major insurers, including United Healthcare, Humana, and Aetna announcing plans to either scale back or exit the exchanges, countless regions are reeling as they have little to offer those who wish to not only secure insurance through the exchanges, but also avoid the penalties associated with non-participation. United Healthcare's CEO, Stephen Hemsley, announced that the nation's largest health insurer would depart many markets in 2017 because of the risks, citing that United could no longer serve these exchanges on an "effective and sustained basis."[1] The gravity of the problem is such that the situation will be untenable in many states unless some reform occurs. There are justifiable concerns of premium price increases in those markets with low to no competition.

Figure 1. The Expanded Medicaid Landscape



Medicare Quality Payment Program

The better bet for healthcare policy watchers is the rollout of the Medicare Quality Payment Program, particularly how quickly Medicare expands alternative payment model (APM) options to physicians and other clinicians and whether APMs are the Medicare program "game changer" they were envisioned to be by policymakers.

Watching what happens with the Quality Payment Program is important for urgent care centers, in part, because some alternative payment arrangements with non-Medicare payers will count toward physicians and other clinicians becoming qualified APM participants under Medicare starting in 2021. This means that an increasing number of physicians will enter into arrangements that put them at financial risk, although with greater upside potential. These providers will be under pressure to control costs while improving patient outcomes. Urgent care centers that are not directly part of these arrangements will need to figure out how to roll alongside, including the provision of solutions to avoidable, costly hospital visits and readmissions.

It may be difficult for urgent care centers that are experiencing growth—or even anticipate growth—in their Medicare patient population to abstain from the new Medicare Quality Payment Program. For most urgent care center providers, the path toward payment will be the Merit-based Incentive Payment System (MIPS). This will calculate payment based on a clinician's performance in four categories: Quality, Advancing Care Information (or electronic health record use), Cost, and Practice Improvement Activities. The Urgent Care Association of America (UCAOA) has stated one of its priorities will be to ensure the program requirements and the metrics for these performance categories are relevant for urgent care providers.

Containing Health Costs

Health expenditures accounted for roughly 32% of the average state's budget in 2012 and are rising two to three times the Consumer Price Index.[2] While Medicare has led payment reform, states trying to "bend the cost curve" will also be looking to create new payment models that may include bundled payments, performance-based reimbursement, accountable care organizations, and cost-sharing strategies, such as those that encourage patients not to use emergency rooms inappropriately. Innovation in more than half of states is being supported and accelerated by a CMS-funded initiative that supports the development and testing of state-led, multipayer healthcare payment and service delivery models.[3]

One way many health plans are trying to control costs is by contracting selectively with providers, or creating narrow networks. The ACA provides a federal floor of network adequacy protections; however, network transparency and patient difficulty accessing network providers in a timely manner led the National Association of Insurance Commissioners (NAIC) in 2015 to undertake the revision of the network adequacy model law, which states can use as a foundation when considering legislation to regulate network adequacy. UCAOA lobbied the NAIC to include urgent care as a requirement of network adequacy; while the effort was rebuffed, the revised model law does reflect that a health carrier, as part of its access plan, would

"Urgent care centers rely on policies that allow them to prove value—which is why what happens in federal and state governments matters."

need to disclose its method for informing covered persons of the plan's procedures for covering and approving urgent care to state regulators.

By mid-2016 few state legislatures had introduced or advanced a legislation bill based on the NAIC model.[4] If the pace of state network adequacy legislation does not accelerate in 2017, federal regulators, who have deferred to states to date, may be compelled to intervene.

Telemedicine

Having more insured Americans also means further strain on an already overburdened healthcare workforce. An increasing number of states are turning to telemedicine as a cost-effective alternative to face-to-face visits. To expand the reach of providers even further, many states have begun to consider legislation that allows for interstate licensure. In October 2016, eighteen states had passed legislation to join the Interstate Licensure Compact, and others are expected to adopt it in 2017.[5] Other telemedicine-policy related issues include coverage and reimbursement, as well as safety and security.

A Big Year Ahead for Urgent Care

Some healthcare delivery systems may find they cannot roll fast enough without integrating urgent care, while others will roll just fine forcing urgent care to adapt. Whichever the case, urgent care centers rely on favorable policies that allow them to prove their value—which is why what happens in federal *and* state governments this year matters. ■

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ABSTRACTS IN URGENT CARE

- How Much Time with the Physician is 'Enough' Time?
- Pursuing Responsible Use of Antibiotics
- Cranberry Capsules Not Helpful in Preventing UTI
- Gout Guidelines Hold Tips for Urgent Care Providers
- Multidrug-Resistant *Candida auris*
- Variability in Assessment of Full-Term Febrile Babies
- Comparing CV Safety and Endpoints of Three NSAIDs
- Prices for Generic Heart Failure Drugs Vary Wildly

SEAN M. McNEELEY, MD

Each month the Urgent Care College of Physicians (UCCOP) provides a handful of abstracts from or related to urgent care practices or practitioners. Sean M. McNeeley, MD, leads this effort.

How Much Time with the Physician is "Enough" Time?

Key point: Length of time with a provider may not be related to patient experience.

Citation: Elmore N, Burt J, Abel G, et al. Investigating the relationship between consultation length and patient experience: a cross-sectional study in primary care. *Br J Gen Pract*. 2016;66(653):e896-e903.

This study documented the length of stay for 529 patients who were seen by a primary care physician. Patients were then asked to fill out a survey about their visit to indicate how they perceived the experience. Questions included whether the physician "gave you enough time," "listened to you," and "took your problems seriously." There was no relationship between actual visit time and the patient's answers. For the acute care provider, understanding that perception—not actual time spent—is most important to the patient is a good start. Understanding how the perception of "enough" time spent needs to be further reviewed. ■

Sean M. McNeeley, MD, is an urgent care practitioner and Network Medical Director at University Hospitals of Cleveland, home of the first fellowship in urgent care medicine. Dr. McNeeley is a board member of UCAOA and UCCOP. He also sits on the *JUCM* editorial board.

"Compliance with antibiotic guidelines was found to be just 52%."

Responsible Use of Antibiotics: Try Starting with Otitis Media, Sinusitis, and Strep Throat

Key point: Widespread compliance with antibiotic guidelines is still a way off.

Citation: Hersh AL, Fleming-Dutra KE, Shapiro DJ, et al. Frequency of first-line antibiotic selection among U.S. ambulatory care visits for otitis media, sinusitis, and pharyngitis. *JAMA Intern Med*. 2016;176(12):1870-1872.

The National Action Plan set a goal of 50% reduction in inappropriate antibiotic prescriptions. Some sources classify 30% of prescriptions as unnecessary in upper respiratory infections. "Inappropriate" prescriptions also include selection of incorrect antibiotics, such as broad-spectrum instead of a more narrow-spectrum choice. First-line antibiotics for otitis media and sinusitis include amoxicillin or amoxicillin with clavulanate; for strep throat, penicillin or amoxicillin is recommended as first line. Overall compliance in this study was found to be only 52%. The highest compliance was found in otitis media in children. Urgent care providers would be well advised to consider good compliance with guidelines for at least these three common

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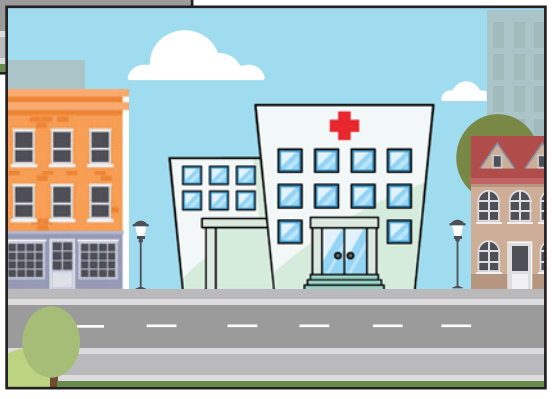

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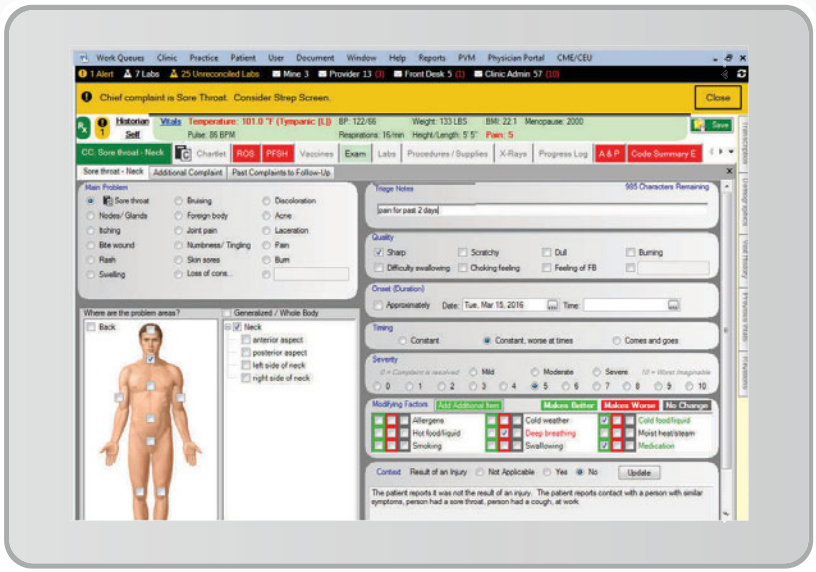

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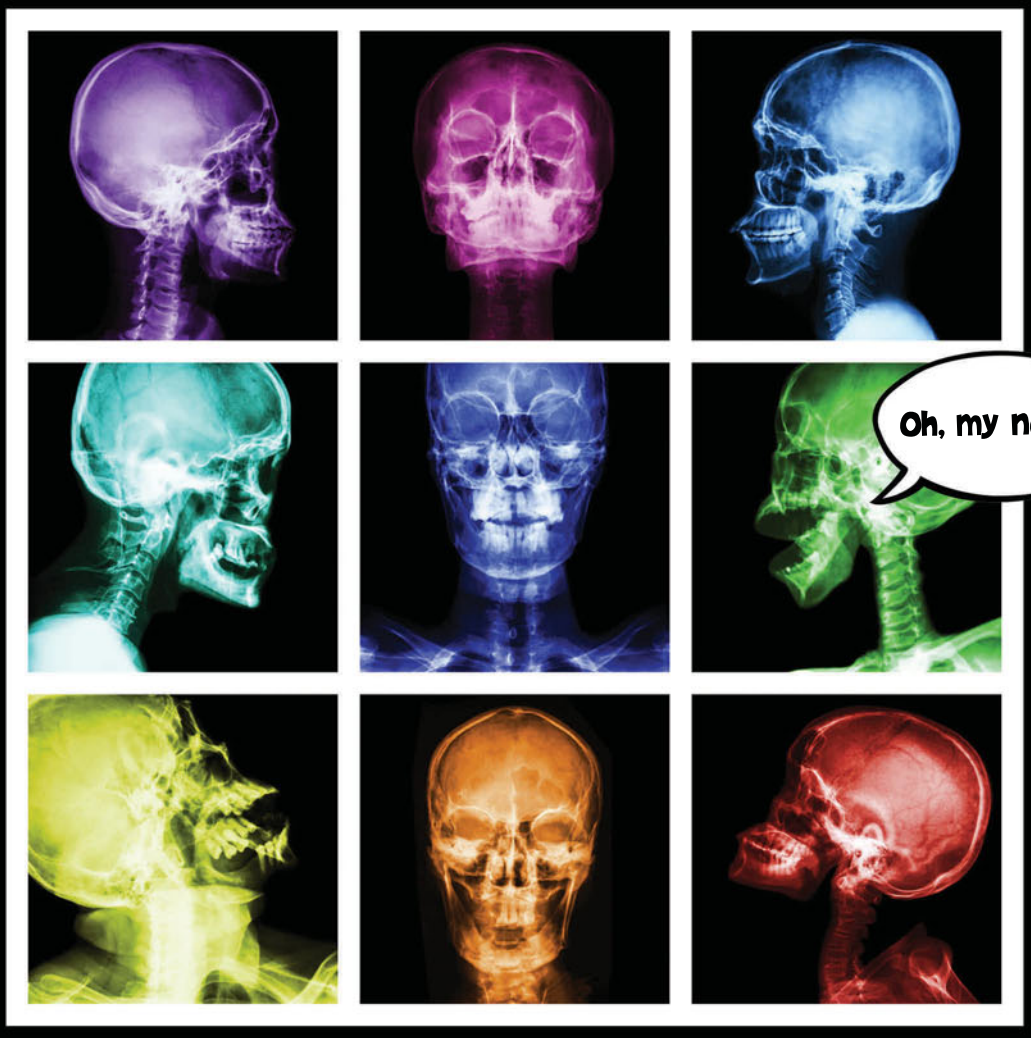

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"The new ACP gout guidelines include several new recommendations that pertain closely to the urgent care setting."

infections to be a good first step toward proper antibiotic stewardship. ■

Cranberry Capsules Not Helpful in Preventing UTI in Older Women—But What About Cranberry Juice?

Key point: Cranberry capsules may not be helpful in preventing UTI, but more study needs to be done on possible benefits of cranberry juice.

Citation: Juthani-Mehta M, Van Ness PH, Bianco L, et al. Effect of cranberry capsules on bacteriuria plus pyuria among older women in nursing homes. *JAMA*. 2016;316 (18):1879-1887.

In this double blind, placebo-controlled study, 187 female nursing home residents were given either two cranberry capsule per day or placebo with the hopes of reducing the number of urinary tract infections. Unfortunately, there was no difference in abnormal urine results or incidence of UTI between the groups. For the acute care provider, this is disappointing; however, there may be a difference between capsules and actual cranberry juice. Further studies would be helpful in this arena. ■

New Gout Guidelines Hold Tips for the Urgent Care Provider

Key point: Updated ACP recommendations include advice applicable in urgent care.

Citation: Qaseem A, Harris RP, Forciea MA. Management of acute and recurrent gout: a clinical practice guideline from the American College of Physicians. *Ann Intern Med*. November 1, 2016. [Epub ahead of print]

Among the American College of Physicians' new recommendations for treatment of gout are several that pertain closely to urgent care. Specifically, the guidance recommends using steroids, NSAIDs, or colchicine to treat acute gout; using low-dose colchicine when that agent is chosen in order to avoid side effects; and not starting urate-lowering medication after just one or infrequent episodes of acute gout. Although there is nothing earth-shattering here, these are clear principles applicable to the acute care provider. ■

Study of Multidrug-Resistant *Candida auris* Underscores the Need for Responsible Prescribing

Key point: Even fungal disease is becoming resistant.

Citation: Vallabhaneni S, Kallen A, Tsay S, et al. Investigation of the first seven reported cases of *Candida auris*, a globally emerging invasive, multidrug-resistant fungus—United States, May 2013–August 2016. *MMWR Morb Mortal Wkly Rep*. 2016;65(44):1234–1237.

Multiple articles dealing with antibiotic overuse and bacterial-resistant infections have been reviewed in this column. This article discusses *Candida auris*, an emerging fungus that can cause invasive infections that has now been cultured in the United States and appears to be one more infection to be concerned about. Most infections are related to exposure from South America and South Asia. Further, most patients with infections in this study were also immunocompromised. For the urgent care provider, the message here is to be aware of another potentially serious infection and to use care with both antibiotics and antifungals. ■

Assessment and Treatment of Full-Term Febrile Infants Varies by Several Factors

Key point: Ordering of complete work-ups for fever diminishes as babies age.

Citation: Greenhow TL, Hung YY, Pantell RH. Management and outcomes of previously healthy, full-term, febrile infants ages 7 to 90 days. *Pediatrics*. November 1, 2016. [Epub ahead of print]

This three-year study reviewed electronic medical records for all full-term infants ages 7 to 90 days presenting with fever. The incident rate of fever was 14.4/100,000. Complete work-up percentages varied by age: 7-28 days, 59%; 29-60 days, 25%: and just 5% for those age 61-90 days. Of interest, a small percentage returned with a diagnosis of UTI. There were no returns for bacteremia or meningitis. Although the urgent care setting rarely cares for patients age 7 to 90 days with febrile illnesses, knowing current practices will help guide parents who present with children with fever in this age group. ■

Comparing Cardiovascular Safety and Endpoints with Celecoxib vs Ibuprofen and Naproxen

Key point: Celecoxib proves not inferior to ibuprofen and naproxen.

"Advise patients that the price of generic digoxin, lisinopril, and carvedilol can be up to 50 times higher from one pharmacy to the next."

Citation: Nissen SE, Yeomans ND, Solomon DH, et al. Cardiovascular safety of celecoxib, naproxen, or ibuprofen for arthritis. *N Engl J Med*. November 13, 2016. [Epub ahead of print]

This study of >24,000 patients reviews the cardiovascular safety of celecoxib compared with ibuprofen or naproxen. Patients were randomized to receive one of the medications and were followed for about 2 years. Celecoxib was not inferior to the others considering cardiovascular endpoints. It did seem to have fewer issues with GI bleeding and renal damage. Although placebo was not in the comparison here, it appears celecoxib is at least equivalent to ibuprofen or naproxen and perhaps better in terms of GI bleed and renal safety. For the urgent care provider who believes a medication like these is needed, this study may provide valuable insights. Obviously, cost is significantly different among these products, as well, and should be discussed. ■

Patients Should Shop Around When Filling Prescriptions for Heart Failure Meds

Key point: Generic prices for heart failure drugs vary wildly.

Citation: Hauptman PJ, Goff ZD, Vidic A, et al. Variability in retail pricing of generic drugs for heart failure. *JAMA Intern Med*. November 15, 2016. [Epub ahead of print]

This study compares the generic prices of digoxin, lisinopril, and carvedilol in a single 55 zip code area. Depending on which individual retail pharmacy was visited, there could be a 50-fold difference in price for the same drug—and no explanation of the cost difference. The implications for this are significant. For the urgent care physician, recognizing the effect price can have on patient compliance and satisfaction with treatment can be quite frustrating. The only way to resolve this is to be sure patients understand where they get their prescription has a large effect on the price of the medication. Other studies with prescriptions like amoxicillin would be very interesting here. ■

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Cost-Effective Staffing with Medical Assistants

Urgent message: Medical assistants (MAs) provide flexible, cost-effective clinical support for urgent care centers. With proper training and working under a physician's supervision, an MA can perform most basic support functions in this setting.

ALAN A. AYERS, MBA, MAcc

Introduction

While there's a lack of verifiable data as to the total number of unsuccessful urgent care endeavors, we can presume at least one common reason urgent care centers shutter their doors and permanently cease operations: they exhaust their working capital.

Working capital funds business operations, covering expenses such as payroll, rent, and supplies. Newly opened centers are especially vulnerable to rapid insolvency, as they often lack sufficient cash deposits to quickly achieve break-even profitability. Hence, until break-even profitability is reached, an urgent care center derives its working capital from sources such as bank loans and owner's equity.

Urgent care centers cannot achieve break-even profitability until patient revenues exceed operating expenses. And whereas patient revenues can be variable, a center has much greater control over its operating expenses. So, the goal of an urgent care operator, regardless of whether a center is new or mature, is to take a hard look at expenses and identify areas of excess. While extras like lavish buildouts and amenities are easy targets for slashing, urgent care operators would do well to begin with their single largest area of expense: labor.

Staffing Models Drive Labor Costs

Payroll and benefits account for over half of the total expenses of an average urgent care center (**Figure 1**). As such, the urgent care staffing model is the starting place for identifying savings. And while cross-training and integration of midlevel providers are common approaches for keeping labor costs in check, one oft-overlooked area of consideration is the forgoing of nurses in favor of medical assistants.

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Admittedly, the notion of an MA-intensive staffing model—while immediately offering an appreciable reduction in labor expenditures—will invariably bring with it several key questions:

1. Can an MA truly perform most of a nurse's essential job functions at the same level of clinical competence?
2. If MAs can indeed competently perform most of a nurse's functions, what are the legalities involved with a physician allowing them to do so?

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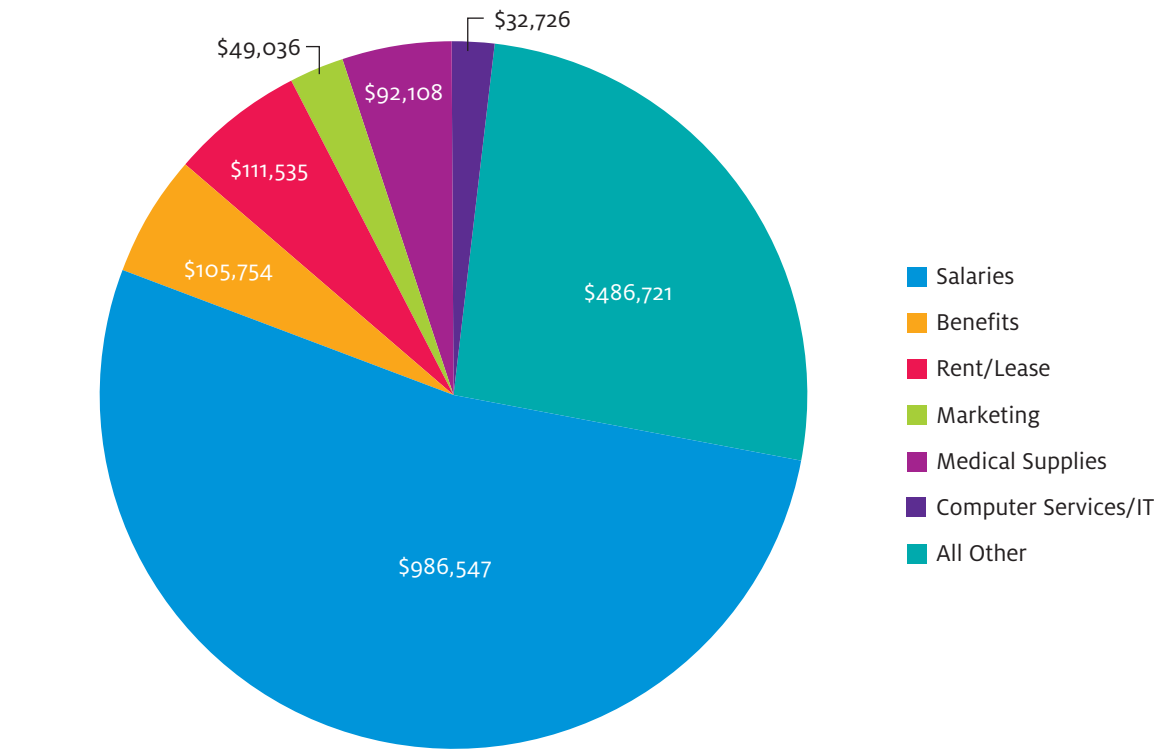
Figure 1. Expenses of Average Urgent Care Center



UCAOA Urgent Care Benchmarking Survey, 2014

3. How should a provider manage an MA who is essentially replacing a licensed registered nurse (RN)?

Unbeknownst to some urgent care operators, a medical assistant with the proper training, certifications, and licensing can indeed perform many of the clinical functions of a registered nurse.

Business Case for Medical Assistants

According to data from the Urgent Care Association of America's 2015 Urgent Care Benchmarking Survey, the average hourly pay for an RN was $27.49, compared with $14.53 for an MA. As illustrated in **Table 1**, substituting MAs for RNs results in appreciable savings. These are hardly insignificant, especially for struggling centers or those working with thin margins. In fact, the freed-up working capital gained from an MA-intensive staffing model can be used to bolster revenue-driving activities, such as the marketing budget.

Legal Considerations

Currently, there is no single national, uniform scope of practice definition of what clinical functions an MA can or can't perform by law. Rather, each state sets its own laws and customs for the MAs employed therein, and these laws and customs can vary. However, there are sev-

Table 1. Urgent Care Nurse vs MA Pay Rate Comparison*

Total open hours per year:	4,320
Number of FTEs (2,080 Hours) for one staff position	2.1
MA hourly rate ($14.53) loaded w/13.8% benefits	$16.54
RN hourly rate ($27.49) loaded w/13.8% benefits	$31.28
Hourly rate difference between RN and MA	$14.74
Hourly rate difference x 2,080 hours/FTE	$30,659.20
Hourly rate difference x 2,080 hours/FTE x 2.1 FTE	$64,384.32

*For a typical urgent care center open 12 hours per day, 360 days per year.

Table 2. Medication Administration Guidelines

Job title	Vaccines (eg, Varivax)	Injections (eg, Benadryl)	Mixing (eg, Rocephin)	Insulin (eg, Human Regular)	Controlled substances (eg, Testosterone, Morphine)
RN	Yes	Yes	Yes	Yes *(requires double-check with RN/LPN/provider)*	Yes
LPN	Yes	Yes	Yes *(requires double-check with RN/provider)*	Yes *(requires double-check with RN/provider)*	Yes
MA	Yes	Yes *(requires double-check with RN/provider)*	Yes *(requires double-check with RN/provider)*	Yes *(requires double-check with RN/provider)*	No (no access at any time)

Please note: This table reflects representative regulations; it does not apply to the regulations of every state.
(Source: Urgent Care Consultants)

eral standard MA regulations that nearly every state requires its providers to follow:

- In every case, unlike nurses, MAs are not licensed. Rather, they practice under the license of their delegating physician, who is responsible for all actions of an MA.
- The MA cannot be presented to customers or patients as a licensed practitioner.
- Any tasks delegated to an MA must be within the delegating physician's authority to perform.
- The MA to whom the clinical task is delegated must be properly qualified and trained to perform such a task.
- The MA is prohibited from re-delegating an assigned clinical task to an unlicensed individual; nor can the delegating physician transfer their supervisory obligations to anyone other than another qualified physician who is aware of and accepts that responsibility.
- The administration of drugs/medication by an MA has several additional regulations:
  - A physician is generally limited in his/her ability to delegate the administration of controlled substances, including narcotics, which MAs can never administer.
  - Delegation must occur on the physical premises of the delegating physician's offices.
  - The physician must first evaluate the acuity of the presenting patient, then evaluate the clinical competency of the MA to whom administration of medication is being delegated.

Again, this is not an exhaustive list of regulations, but rather, general guidelines. Thus, urgent care operators wishing to employ and delegate clinical duties to an MA must do their own due diligence in researching the guidelines and regulations of their respective states. It bears repeating, however, that in all cases, the licensed physician is legally and professionally responsible for the actions of the MA. Additionally, some jurisdictions provide for nurses and/or nurse practitioners to delegate clinical tasks to an MA, depending on the local nursing practice laws. Note, though, that any such delegation is always based on the legal relationship between the nurse and the MA, not a physician and the MA.

Clinical Scope of Practice

Medical assistants can loosely be described as healthcare professionals that act as an auxiliary to a licensed physician. In short, they're professionals that play a critical role in the operations of healthcare clinics, facilities, and physician offices. MAs traditionally take patient vital signs, explain and set the expectations for the visit, and prep the patient for exams. MAs also tend to work the front desk, where they can handle clerical, administrative, and patient registration tasks. While these duties are important, a properly trained and certified MA can also take on a myriad of clinical duties (upon standing physician orders). A few common examples of such clinical duties include:

1. **Perform venipuncture.** MAs can draw blood or start an IV.
2. **Operate the x-ray machine.** MAs who have basic x-ray certification (in states where permitted) can take some x-rays.
3. **Administer urine catheter.** Insert/remove straight or indwelling catheter while also performing gen-

New York State Restrictions on Medical Assistants

The tasks approved for MAs vary by state. Because a "medical assistant" is generally an unlicensed individual who performs tasks under the supervision of a physician who is responsible for their actions, there can often be ambiguity as to what tasks can be delegated to an MA. New York is one state that specifically defines the tasks that can be completed by medical assistants or unlicensed persons as:

- Secretarial work, such as assembling charts or assisting with billing
- Measuring vital signs
- Performing EKGs
- Taking laboratory specimens, including blood work
- Assisting an authorized practitioner, under the direct and personal supervision of said practitioner, to carry out a specific task, as a "second set of hands."

Further, New York restricts MAs and other unlicensed persons from performing the following tasks:

- Triage
- Administering medications through any route
- Administering contrast dyes or injections of any kind
- Placing or removing sutures
- Taking x-rays or independent positioning patients for x-rays
- Applying casts
- First-assisting in surgical procedures

In the urgent care setting, New York enables MAs to do most of the daily tasks needed (rooming patients, obtaining vitals, testing, drawing blood, performing point-of-care labs, and assisting the physician with lacerations and their clean-up), but the three things they cannot do are significant considerations for urgent care operators:

- Triage: Medical assistants cannot assess the acuity of a patient's symptoms nor direct/prioritize patient care.
- Injections: Medical assistants cannot draw up or give injections.
- IV medications: Medical assistants can bring the necessary items for a provider to start the process but they cannot monitor flow or pull the IV out.

While the provider prospectively could deal with injections and IVs (although such can be a distraction in a busy clinic), the main challenge with MAs for urgent care in New York goes to triage. A provider cannot control flow and treat patients simultaneously. In the rare instance of an emergency presentation, the physician could be liable if the MA were found to have prioritized flow based on acuity (with the assumption being the MA conducted a medical assessment). So, the recommendation in New York is that a registered or licensed practical nurse be included in the staffing model.

Outside of New York, most urgent care centers rely on standard operating procedures instead of triage. Patients are seen on a first-come, first-served basis, with standing orders to immediately pull back any patients with chest pain, shortness of breath, allergic reaction, severe pain, bleeding, etc. for a provider evaluation. Typically, the front desk will ask if a patient has any of these symptoms, upon which time the patient will immediately be taken to the back. Otherwise the patient is queued and the MA takes vitals and documents chief complaint, medical history, and current medications. Whether RNs/LPNs are needed, then, depends in large part on whether the triage process remains or whether standing orders are implemented to prioritize patients complaining of certain symptoms.

eral catheter care.

4. **Assist with medical examinations.** In concert with and in support of the delegating physician.
5. **Remove sutures and change dressings.** After physician evaluation and orders.
6. **Administer medication/vaccines/immunizations. Table 2** provides a basic overview of the medication administration guidelines for clinical staff. Note that with the exception of controlled substances, an MA can administer each medication type provided they double-check with a licensed, delegating provider first.
7. **Report lab findings/results to patients.** As long as the lab results have been reviewed and signed off by the delegating physician/provider.

In sum, the scope of clinical tasks many states allow physicians to delegate to MAs is expansive, so it's generally more useful to highlight the few tasks that *cannot* be delegated to an MA. Such a list would include:

- Complex wound care (including the administration of silver nitrate sticks)
- Double-check of high-risk medication
- Triage (telephone or in-person), assessments, diagnoses, interpretations, or evaluations
- In-depth patient education or independent medical judgements

As is always the case, state laws and regulations dictate exactly what clinical tasks a licensed provider can or cannot delegate to an MA—and the laws do vary. Regardless, the above breakdown lends credence to the assertion that an MA can perform most of the tasks that a nurse would in an urgent care setting.

Training, Licensing, and Certifications

Nationally, there is no standard educational criteria governing MAs, so healthcare employers must vet each MA applicant for clinical skills and certifications. Most healthcare employers prefer certified MAs, though, and will favor applicants credentialed through or affiliated with accredited, recognized certification programs and schools. Yet, formal career pathways can vary, from a two-year college associate degree program (in-class or offline) to a vocational school offering coursework spanning several months. One such pathway, the attainment of a Certified Clinical Medical Assistant (CCMA) certificate, is offered by the National Healthcareer Association (NHA) and is widely respected throughout the industry. The American Medical Technologists (AMT) also offers an industry-recognized Medical Assisting certification. Many other independent schools and institutions also offer MA diploma programs and certifications through both in-class and online coursework comprising in-depth curricula toward developing well-trained, highly qualified MAs.

Still, most hands-on MA clinical training actually occurs on the job by physicians, various clinicians, and even other MAs. This training can occur during a paid or unpaid internship/externship and usually involves job shadowing of both clinical and administrative staff. Exposing the intern/extern to as many functions as possible will help ensure they develop into an experienced, well-rounded MA who is a versatile and valuable care team member.

Physician Resistance

Many physicians who get into urgent care have emergenc room backgrounds wherein they're accustomed to working with nurses. In the ED, nurses tend to "manage" the physicians, so to speak—in terms of assessing patient acuity, coordinating patient flow, etc. MAs, by contrast, require active engagement and management from physicians, which some providers resist. Often set in their ways, the prospect of having to manage an assistant (and being liable for their mistakes) is unappealing, to say the least.

However, as an urgent care center can clearly benefit, financially and otherwise, from employing more cost-effective MAs, physicians would be wise to take a more open-minded approach to embracing the MA staffing model. To that end, here are a few tips for physicians on how to engage and manage MAs:

1. **Establish well-defined protocols and directions**—Undoubtedly the most important piece in working with MAs. Clear directions, well-defined protocols, and orders outlined in advance give the MA a structure of how to approach and prioritize clinical and administrative tasks. Of course, the delegating physician will still need to actively engage the MA, but with protocols, directions, and orders in place there will be far less supervising/micromanaging required.
2. **Communicate the MA's roles and responsibilities to the care team**—Team members should have a clear understanding of the MA's role, including the delegating physician's preferred prioritization of MA tasks. This type of communication takes the guesswork out of determining what the MAs should be doing at any given time, and prevents them from being pulled in multiple directions.
3. **Periodically assess the MA's work quality**—At first there may be a lot of upfront time investment in direct supervision and training, but eventually the MA should be able to work semi-independently within the framework of existing protocols. Still, the delegating provider should periodically assess the overall performance of the MA, making sure to offer constructive criticism if necessary and praise when appropriate.

While MAs will never have the latitude or autonomy of a licensed nurse, they can still perform a multitude of clinical duties that do not require the physician's constant supervision. Therefore, the success of the model hinges on the physician's open-mindedness to the practice model, and their cognizance of the financial benefits of employing cost-effective labor.

Advantage: Cross-Training

Upon close examination, it becomes clear that a well-trained MA, depending on state laws, can perform many of the clinical tasks of a radiologic technician, phlebotomist, and lab tech. And as there is generally insufficient patient volume for an urgent care to fully utilize these positions, there should be an emphasis on cross-training MAs to fill the roles when necessary.

Urgent care should utilize a lean-staffing model, using the most cost-effective resource for each task in the center.

But many urgent care centers are either part of, or following the staffing model of, hospital systems, and that's when they run into financial trouble from overstaffing. Hospitals, for example, will employ specialized labor for each task, such as an RN for meds distribution, an RT for x-rays, and a lab tech/phlebotomist for drawing blood. Many of these specialized tasks occur only a few times a day in urgent care, though, which means the unnecessary labor spikes costs to the point that the urgent care can't survive financially. Couple that with common misperceptions of what a nurse or MA "can't do"—resulting in "specialists" being brought in—and it ends up that highly paid, but unnecessary full-time equivalents (FTEs) strain the urgent care budget.

"Implemented correctly, an MA staffing model can elevate a practice to new levels of energy, cooperation, and efficiency."

Hence, cross-training is essential. The staffing model should be as lean as possible, with everyone eager to jump in and help out wherever necessary. Many states offer MA certification pathways for basic x-ray and lab tech training, and due to CLIA-waived/instant tests and the percentage of patients treated presumptively without lab testing, the lab tech might be a superfluous urgent care position anyway. MAs can and already do fulfill these roles as they occur in urgent care.

Special Considerations

Ultimately, a nurse seems to be a more highly paid FTE than is really required in urgent care. Additionally, urgent care nurses turn over frequently in pursuit of higher-paying, less stressful positions that have lower patient volumes. Or, they pursue careers in long-term care, nurse management, or go after advanced credentials such as Nurse Practitioner or Nurse Doctorate. And with the nation periodically experiencing nursing shortages, urgent care may not be the best use of those limited clinical resources.

The position of MA, on the other hand, aligns more synergistically with the urgent care model. Many medical assistants have a strong yearning to help and assist people (not that nurses don't), which turns out to be a primary reason they become MAs. The advantage to urgent care is a workforce eager to serve patients.

Thus, urgent care becomes an excellent training ground for MAs, and plays a critical role in developing the nation's clinical support resources. It's why many urgent care centers create externships with MA schools, as this allows them to shape the MA's formal training curriculum, and to interview and select from among the top students.

The drawback, of course, is that urgent care MAs become so skilled that they frequently also turn over in pursuit of higher-paying, less stressful positions. Or, they even go back to school to pursue nursing degrees. So, it behooves the urgent care to develop and nurture relationships with MA schools and vocational programs to assure a constant pipeline of high-quality MAs for the center.

Conclusion

Labor is the single largest expense in urgent care operations; in order to survive financially, urgent care operators must always employ the leanest staffing model possible. Well-trained and supervised medical assistants can perform most clinical tasks in many states, so by forgoing higher paid FTEs such as nurses and RTs in favor of MAs, a center can realize tens of thousands in yearly labor savings.

Critical to the successful implementation of an MA-intensive staffing model, however, is physician engagement. Many physicians have grown accustomed to a clinical environment where they work primarily with nurses, and frown upon having to actively manage MAs. But the time tradeoff is financially worth it to the urgent care, and with well-defined protocols in place, skilled and versatile MAs can help improve overall clinic workflow.

So it's up to urgent care operators to play an active role in the development of the nation's MAs through externships/internships with MA schools and vocational institutions. This helps urgent care centers assure they'll maintain a ready pipeline of dedicated and well-trained MAs while contributing to the development of the nation's clinical resources.

Bottom line, urgent care centers sink or swim based on how well they manage costs. The MA staffing model is a more than viable option, and when implemented correctly, can elevate a practice to new levels of energy, cooperation, and efficiency. ■

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See **CME Quiz Questions** on page 7.

Initially Missed Diagnosis of Quadriceps Partial Tendon Tear

Urgent message: Quadriceps tendon tears are misdiagnosed frequently, leaving patients at excessive risk for long-term disability. Early identification and immediate referral for further care—often, surgery—is necessary for optimal outcomes.

MARK CIAGNE, MD, JONATHON SWAN, DAVID L. PARKER, MD, and ZEKE J. MCKINNEY, MD, MHI, MPH

Introduction

Musculoskeletal injuries are among the most common problems seen in the urgent care setting. Quadriceps tendon tears are uncommon injuries, with an incidence of approximately 1.4/100,000 per year. Consequently, misdiagnosis is common—reportedly as high as 50% in some clinical settings.[1-3] Missed or delayed identification may result in long-term disability, especially when the tear is complete.[1,3,4] A working knowledge of knee anatomy is important in understanding the various clinical presentations, and a high index of suspicion is crucial in making the correct diagnosis.

Case Presentation

A 55-year-old male arborist was injured while digging a hole for a tree. He missed kicking his shovel and struck the ground with his left foot. He immediately felt pain about his knee and was unable to bear weight on his left leg. That evening he was seen in a local emergency department for knee and leg pain. He was subsequently diagnosed with a quadriceps strain and sent home with narcotic pain medications and advised to follow-up with orthopedics if his pain continued.

The following day, his employer was concerned about his inability to work and arranged an appointment in the occupational medicine clinic for further evaluation and management of work restrictions. The patient noted the presence of knee pain, as well as inability to bear weight on and to completely straighten his left leg.

Physical examination revealed mild-to-moderate swelling and edema in the distal quadriceps proximal to the patella. The patient was not able to extend his left knee against gravity. Additionally, he had evidence of extensor lag (diminished or absent active extension with intact passive extension) while attempting to hold the leg at full extension in a seated position. A subtle but palpable defect was noted along the lateral quadriceps

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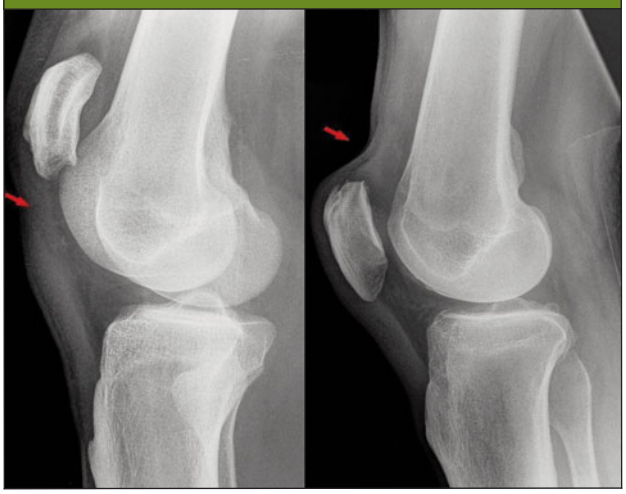
Mark Ciagne, MD is an occupational medicine clinician with HealthPartners. **Jonathan Swan** is a first-year medical student at A.T. Still University School of Osteopathic Medicine. **David L. Parker, MD** practices occupational medicine with HealthPartners. **Zeke J. McKinney, MD, MHI, MPH** is a faculty physician in occupational and environmental medicine and a clinical researcher at HealthPartners. The authors have no relevant financial relationships with any commercial interests.

Figure 1. Low-riding patella (patella baja) commonly seen in complete tendon tears.

(Photo courtesy of Wikimedia Commons.)

tendon, roughly 2 cm proximal to the patella. A three-view x-ray with sunrise views of the knee did not show anatomical abnormalities.

Figure 2. Differing appearance in a patellar tendon complete tear (left) and quadriceps tendon complete tear (right).



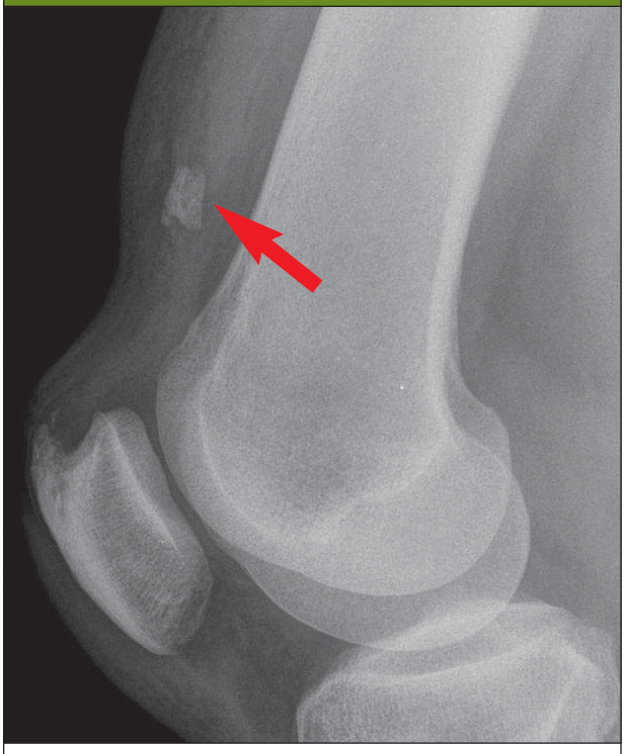
The differential diagnosis included osteochondritis dissecans (OCD) of the patella, patellar dislocation or fracture, patellar tendon rupture, prepatellar bursitis, quadriceps contusion, and quadriceps strain. Based on physical findings, it was believed he had a quadriceps tendon tear. He was placed on non-weight-bearing restrictions, his knee was placed in an immobilizer, and he was given a pair of crutches. He had a same-day appointment with an orthopedic surgeon, and a magnetic resonance imaging (MRI) study was performed. The MRI showed a nearly complete tear of the quadriceps tendon. A week later, he underwent surgical repair of the quadriceps tendon and then began a rehabilitation program.

Discussion

Mechanism of Injury

The extensor mechanism of the knee consists of the quadriceps muscle, with its four muscle bellies (rectus femoris, vastus lateralis, vastus medialis, and vastus intermedius). The quadriceps tendon is composed of contributions from each of these muscles, forming a common tendon insertion at the patella. Complete tendon tearing typically occurs during a rapid eccentric contraction of the quadriceps muscle on a planted foot with a partially flexed knee, with the tendon stretching in response to a force greater than the generated tension from the muscle.[2] The commonly described mechanism is indirect trauma, such as trying to catch oneself with an outstretched leg while falling; however, a tear may also occur from direct blows to the quadriceps muscle.[1,3,5]

Figure 3. Quadriceps tendon complete tear with an avulsed patellar fragment.



(Photo courtesy of Wikimedia Commons.)

Presenting History and Epidemiology

A patient will often feel a snap or pop associated with a tear and may have difficulty standing due to pain with knee extension.[2] Partial tears tend to occur in younger patients, particularly those involved in athletics; however, complete tears tend to occur in adults aged 40-60.[1,3,5] These injuries affect males at a rate of four to eight times more than females.[1,3] Except in the case of major trauma or systemic rheumatologic disease, these lesions tend to be unilateral (88%), and usually in the non-dominant limb.[3,4]

Physical Exam

Common presenting signs and symptoms include acute knee pain, swelling, palpable quadriceps tendon defect, extension difficulty, and an inability to bear weight.[3,5] Inability to fully extend the knee and/or a palpable suprapatellar gap should suggest a complete tear.[3,4] Patients often have no preceding history of knee pain.

Diagnostic Testing

Plain film x-ray may show subtle findings, but are often normal. Most common findings include obliteration of the quadriceps tendon shadow, suprapatellar mass, patella baja (inferior displacement of the patella), and anterior tilting of the patella.[2] Although ultrasound has been shown to be a useful modality in demonstrating quadriceps tendon defects, MRI is the imaging modality of choice as it can demonstrate the nature and location of tear, as well as guide potential operative therapy.[2]

Management

Missed or delayed identification of tendon tears can result in serious long-term disability and pain.[2,4] Any patient suspected of a quadriceps tendon tear should be non-weight-bearing, placed in a straight leg knee immobilizer, and evaluated by an orthopedic surgeon in a timely manner. Partial ruptures may be managed conservatively, while complete tears will require surgical repair.[3,4] For complete tears, surgery 1 to 2 weeks post-injury is ideal for the best functional outcome, as a delay in repair is associated with quadriceps tendon retraction, quadriceps muscle atrophy, and decreased functional outcomes. Additionally, chronic repairs are surgically more elaborate and with less successful outcomes.[3,4]

Conclusion and Teaching Points

Partial quadriceps tendon tears tend to occur in younger patients, particularly those involved in athletics, while complete tears tend to occur in adults aged 40-60.

The commonly described mechanism of a quadriceps tendon tear is indirect trauma with rapid eccentric contraction of the quadriceps muscle on a planted foot with a partially flexed knee, such as trying to catch oneself with an outstretched leg while falling.

The inability to fully extend the knee and/or a palpable suprapatellar gap are strongly suggestive of a complete quadriceps tendon tear.

Partial quadriceps tendon tears can be managed conservatively, while complete quadriceps tendon tears require early surgical repair (1–2 weeks post-injury) to avoid decreased functional outcomes and less successful surgical management. ■

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INSIGHTS IN IMAGES

CLINICAL CHALLENGE: CASE 1

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*.

Dry Cough in a 19-Year-Old Male

David Cohen, MD, Medical Director, Teleradiology Specialists

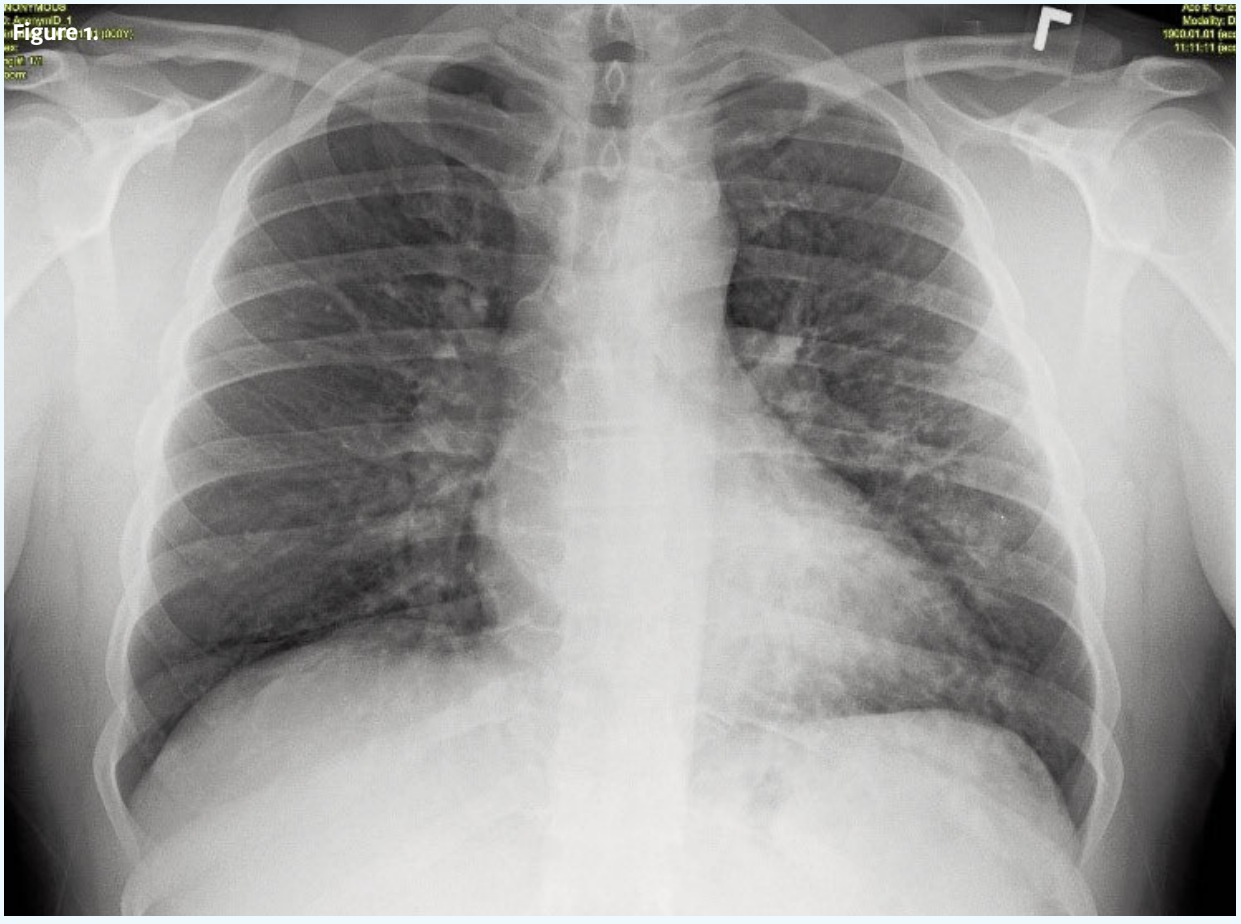

Figure 1

Case

A 19-year-old man presents to urgent care with a 5-day history of a dry cough. He says he has "felt warm" but didn't think to check his temperature. He also complains that he has been weak, with a decreased appetite. He notes that his girlfriend had an upper respiratory infection a couple of weeks ago, but other than that he's had no exposure to anyone who's been sick. He has not traveled anywhere recently, and he has no recent history of weight loss or medication use.

View the image taken (**Figure 1**) and consider what your diagnosis would be.

Resolution of the case is described on the next page.

THE RESOLUTION

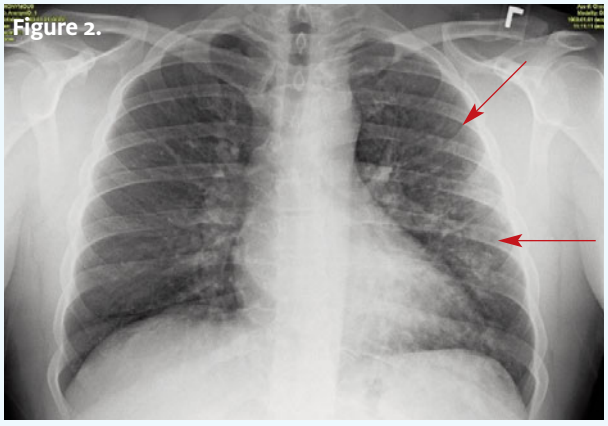
Figure 2.

Differential Diagnosis

- Lobar pneumonia from pneumococcus
- Pneumocystis pneumonia
- Lung cancer with metastatic disease
- Mycoplasma infection
- Cardiomegaly secondary to heart failure

Physical Examination

Examination reveals the following:
Vitals: Afebrile, pulse 102, respirations 20, BP 122/78
General: Alert and oriented, no acute distress
Lungs: Clear to auscultation on the right but a slight wheeze is heard on the left with expiration
Cardio: Regular rate and rhythm without murmur, rub or gallop
Abdomen: Soft and nontender without rigidity, rebound or guarding. No bruising or distention

The general appearance of the patient will also help with assessing for pneumonia—eg, respiratory distress may be manifested by nasal flaring, use of accessory muscles, diaphoresis, or position.

Be vigilant for signs of dehydration (eg, poor skin turgor, dry mucous membranes, low urine output).

Lung exam may be normal or reveal rales (crackles), rhonchi, wheezing, bronchial breath sounds, whispered pectoriloquy (ie, hearing a patient whispering when auscultating over an area of lung consolidation), or egophony (when auscultating over an area of lung consolidation the sound of a spoken vowel—eg, an "eee" sound will be changed to a short "e").

Diagnosis

X-ray shows faint, fluffy appearing small nodular opacities in the lower left lung, with associated thickening of interstitial and bronchial markings. Mild central peribronchial thickening is present bilaterally. There is no consolidation or effusion. Heart and mediastinum are normal. This, combined with physical exam findings, leads to a diagnosis of mycoplasma pneumonia.

The antibiotic of choice would be a macrolide antibiotic, though a second-generation tetracycline (eg, doxycycline) may be used. Follow-up should be with primary care or by a return to the urgent care if symptoms persist, or with a more severe illness. Note that symptoms may persist for weeks.

Learnings

Mycoplasma pneumonia is one of the most commonly identified pneumonias in young adults, particularly in the summer months. It is caused by a bacterium, mycoplasma pneumoniae, that lacks a cell wall.

Symptoms of pneumonia may include fever, chills, cough, shortness of breath, myalgias, chest pain and fatigue. Risk factors include being elderly, a smoker, immunocompromised status. It is important to inquire about recent hospitalizations, as a facility-acquired pneumonia will require a different approach to management than a community-acquired pneumonia.

Ask specifically about comorbidities such as alcoholism, IV drug use, cystic fibrosis, history of bronchiectasis, and exposures to ill persons.

Testing initially involves a plain x-ray series. Mycoplasma will often appear as a patchy infiltrate, either unilateral or bilateral. Lobar consolidation is rare. Assess for other serious causes, including pneumothorax, mass, mediastinal air, rib fractures, or parapneumonic effusion. Laboratory testing is rarely indicated in the young, healthy patient.

What to Look For

Differential diagnostic considerations for cough and shortness of breath are broad, including etiologies as diverse as acute coronary syndrome, pulmonary embolism, malignancy, cardiac tamponade, and pneumothorax; however, the most common causes are infectious, ranging from acute viral bronchitis to bacterial pneumonia.

Indications for transfer include the following:

- Respiratory distress
  - Tachypnea
  - Retractions
  - Associated diaphoresis
  - Drooling or stridor
- Altered level of consciousness
- Oxygen saturation less than 90%
- Concern for a pathogen with increased virulence such as methicillin-resistant staph aureus (MRSA) or an atypical pneumonia, such as pneumocystis pneumonia
- Concern about compliance or proper care at home
- Toxic appearing or with underlying medical conditions that predispose to complications ■

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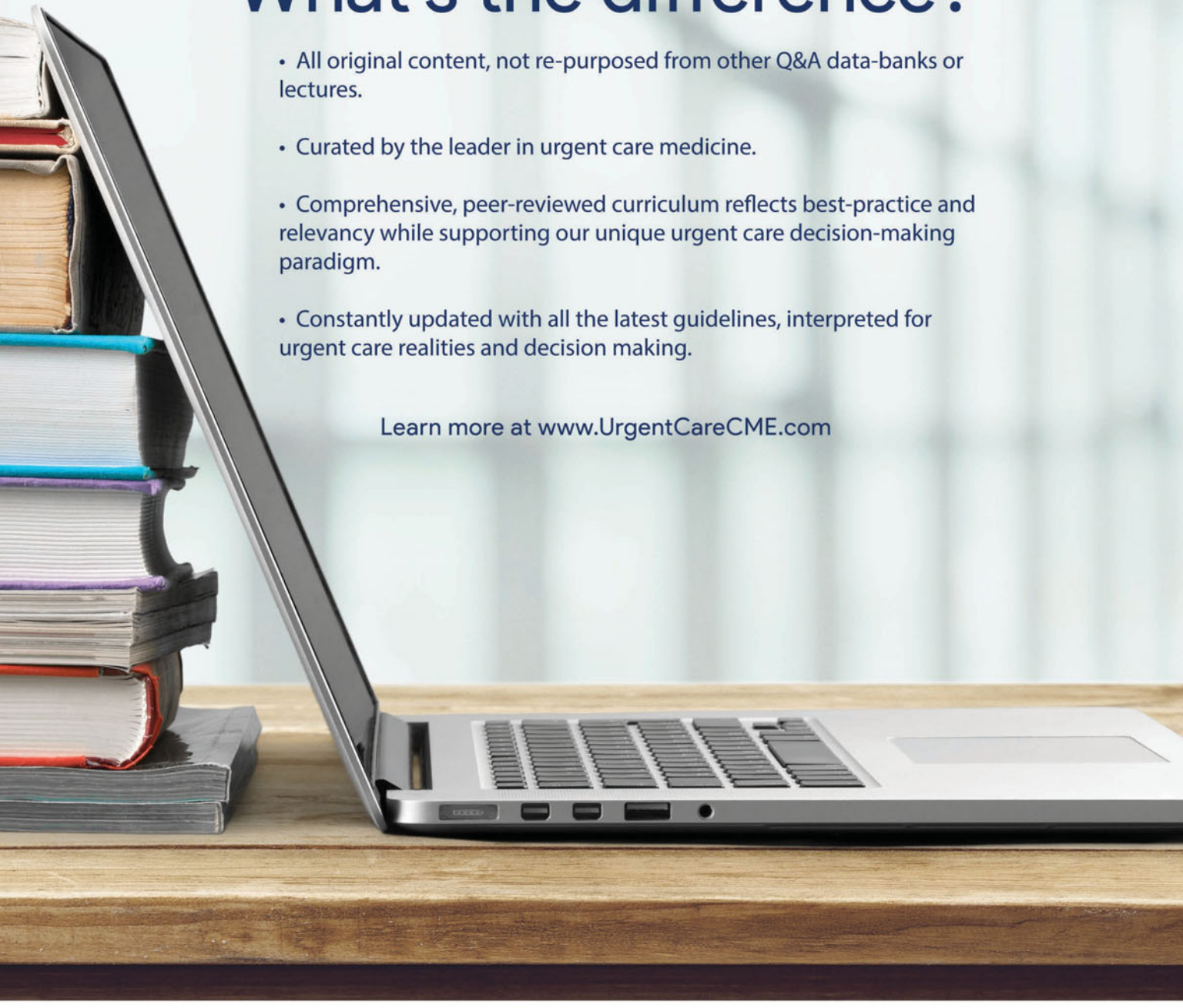

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2017 *Current Procedural Terminology* (CPT) Code Changes

DAVID E. STERN, MD, CPC

A new year always brings changes, and CPT is not excluded. As of January 1, 2017 you will want to take note of CPT code changes that will affect your billing.

Imaging Guidance Codes with Puncture Aspiration

If guidance is used for needle placement when performing puncture aspiration CPT code 10160, "Puncture aspiration of abscess, hematoma, bulla, or cyst," coders are directed to the imaging guidance codes:

- 76492, "Ultrasonic guidance for needle placement (eg, biopsy, aspiration, injection, localization device) imaging supervision and interpretation"
- 77002, "Fluoroscopic guidance for needle placement (eg, biopsy, aspiration, injection, localization device) (List separately in addition to code for primary procedure)"
- 77012, "Computed tomography guidance for needle placement (eg, biopsy, aspiration, injection, localization device), radiological supervision and interpretation"
- 77021, "Magnetic resonance guidance for needle placement (eg, biopsy, aspiration, injection, localization device), radiological supervision and interpretation"

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.urgentcare consultants.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.

"Presumptive drug screen codes have been deleted and replaced with a new series of codes."

Fracture Code Deletion

CPT code 22305, "Closed treatment of vertebral process fracture(s)," is deleted and providers are directed to use the appropriate Evaluation and Management (E/M) code.

Presumptive Drug Screen Codes Deleted and Replaced

Presumptive drug class screening codes 80300-80304 were deleted and replaced with:

- 80305, "Drug test(s), presumptive, any number of drug classes, any number of devices or procedures (eg, immunoassay); capable of being read by direct optical observation only (eg, dipsticks, cups, cards, cartridges) includes sample validation when performed, per date of service"
- 80306, "Drug test(s), presumptive, any number of drug classes, any number of devices or procedures (eg, immunoassay); read by instrument assisted direct optical observation (eg, dipsticks, cups, cards, cartridges), includes sample validation when performed, per date of service"
- 80307, "Drug test(s), presumptive, any number of drug classes, any number of devices or procedures, by instrument chemistry analyzers (eg, utilizing immunoassay [eg, EIA, ELISA, EMIT, FPIA, IA, KIMS, RIA]), chromatography (eg, GC, HPLC), and mass spectrometry either with or without chromatography, (eg, DART, DESI, GC-MS, GC-

MS/MS, LC-MS, LC-MS/MS, LDTD, MALDI, TOF) includes sample validation when performed, per date of service"

All three of these codes are to be reported only once, irrespective of the number of drug class procedures or results on any date of service.

Influenza Description Changes

Some influenza vaccine code descriptions are revised to include the dosage, while the age ranges have been deleted for codes:

- 90655, "Influenza virus vaccine, trivalent (IIV3), split virus, preservative free, 0.25 mL dosage, for intramuscular use"
  - Age range of 6-35 months deleted
- 90656, "Influenza virus vaccine, trivalent (IIV3), split virus, preservative free, 0.5 mL dosage, for intramuscular use"
  - Age range 3 years and older deleted
- 90657, "Influenza virus vaccine, trivalent (IIV3), split virus, 0.25 mL dosage, for intramuscular use"
  - Age range 6-35 months deleted
- 90658, "Influenza virus vaccine, trivalent (IIV3), split virus, 0.5 mL dosage, for intramuscular use"
  - Age range 3 years and older deleted
- 90661, "Influenza virus vaccine, trivalent (ccIIV3), derived from cell cultures, subunit, preservative and antibiotic free, 0.5 mL dosage, for intramuscular use"
  - No age range was listed
- 90674, "Influenza virus vaccine, quadrivalent (ccIIV4), derived from cell cultures, subunit, preservative and antibiotic free, 0.5 mL, for intramuscular use"
  - This was a new code effective August 1, 2016 and just now making its appearance in the CPT manual
- 90685, "Influenza virus vaccine, quadrivalent (IIV4), split virus, preservative free, 0.25 mL dosage, for intramuscular use"
  - Age range 6-35 months deleted
- 90686, "Influenza virus vaccine, quadrivalent (ccIIV4), split virus, preservative free, 0.5 mL dosage, for intramuscular use"
  - Age range 3 years and older deleted
- 90687, "Influenza virus vaccine, quadrivalent (IIV4), split virus, 0.25 mL dosage, for intramuscular use"
  - Age range 6-35 months deleted
- 90688, "Influenza virus vaccine, quadrivalent (ccIIV4), split virus, 0.5 mL dosage, for intramuscular use"
  - Age range 3 years and older deleted

New E/M Codes for Physical, Occupational, and Athletic Evaluations

Physical Medicine and Rehabilitation codes 97001-97006 have been deleted and the section expanded to define new documentation requirements for evaluations and re-evaluations. Previously, the only criterion that determined the correct code was whether the evaluation was an initial evaluation or a re-evaluation. Now, the provider must document history, examination, clinical decision making, and plan of care to determine the complexity of the level of service provided: low, moderate, or high. Much like E/M coding, the therapist is directed to insert this into an algorithm to determine the correct code level.

Coders are directed to the following CPT codes:

- 97161-97164 for physical therapy evaluations
- 97165-97168 for occupational therapy evaluations
- 97169-97172 for athletic training evaluations

"CMS will pay the same work RVU for physical and occupational therapy initial evaluations, no matter what level of service is billed"

Interestingly, CMS had decided that it will pay the same work Relative Value Unit (RVU) of 1.20 for physical and occupational therapy initial evaluations, no matter what level of service is billed. One might expect this to change in future years. Physical and occupations therapy re-evaluations will be paid at the work RVU of .75. (See *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/PFS-Federal-Regulation-Notices-Items/CMS-1654-F.html.)*

Visit the Practice Velocity website at *http://www.practicevelocity.com/blog/new-evaluation-management-codes-2017/* for detailed information on the specific documentation requirements for each level of service.

New Indicator and Appendix for Telemedicine

Appendix P, CPT Codes That May Be Used for Synchronous Telemedicine Services, has been added to provide a listing of codes for reporting real-time telemedicine services when appended by new modifier -95, "Synchronous telemedicine service rendered via a real-time interactive audio and video telecommunications system." ■

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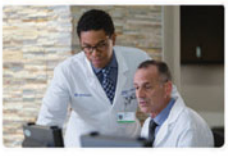

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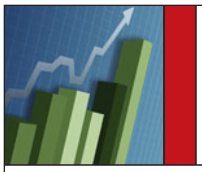


DEVELOPING DATA

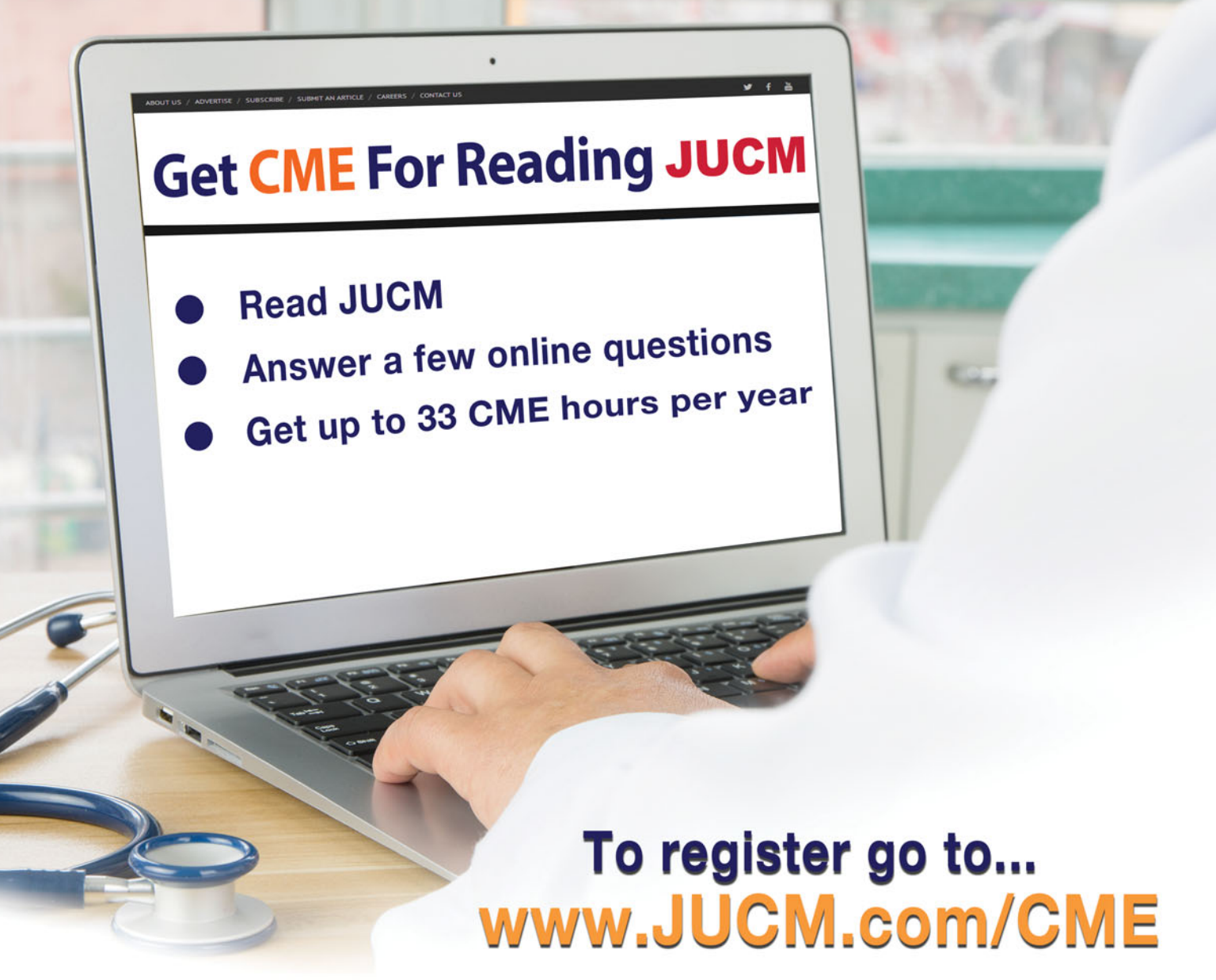
The 100 largest urgent care operators in the United States run approximately 25% of the locations under their banners, according to research by Practice Velocity and National Urgent Care Realty. They're getting even bigger, too; the number of locations owned by the companies on the list expanded by about 20% this year. While ownership was once delineated between hospital-affiliated and independents, several multi-unit operators now operate in some (but not all) of their markets as hospital joint ventures or under management agreements. Large national hospital operators (eg, HCA, Tenet) are also developing national networks of distinctly branded urgent care centers. The biggest of the big are listed here, sorted by number of locations as of January and November 2016. (Note: N/A indicates the operation either did not exist or was not tracked in January 2016.)

For the complete list of 100 largest urgent care operators, visit www.jucm.com.

100 LARGEST URGENT CARE CENTER OPERATORS

Rank	Urgent Care Name	Website	Hopital Owned/Affiliated	2015	2016
1	Concentra	https://www.concentra.com/patients/urgent-care/	JVs in Selected Markets	293	294
2	MedExpress Urgent Care	www.medexpress.com	No	176	200
3	American Family Care	www.afcurgentcare.com	No	168	174
4	U.S. HealthWorks	http://www.ushealthworks.com/	Dignity Health	162	161
5	NextCare	http://www.nextcare.com/	No	133	136
6	FastMed	www.fastmed.com/	No	109	124
7	Patient First	www.patientfirst.com/	JVs in Selected Markets	73	74
8	CityMD Urgent Care	www.citymd.net	JVs in Selected Markets	54	69
9	CareNow	www.carenow.com	Hospital Corporation of America	25	65
10	GoHealth Urgent Care	http://www.gohealthuc.com/	JVs in Selected Markets	NA	59
11	MedPost Urgent Care	https://medpost.com/	Tenet Healthcare	54	55
12	Doctors Care	http://www.doctorscare.com/	No	52	52
13	Fast Pace Urgent Care	http://www.fastpaceurgentcare.com/	No	35	41
14	Centra Care	www.centracare.org/	Adventist Health System	35	38
15	PIC - Physicians Immediate Care	http://physiciansimmediatecare.com/	JVs in Selected Markets	37	38
16	MedSpring Urgent Care	http://medspring.com/	JVs in Selected Markets	35	37
17	Aurora Health Center Urgent Care	https://www.aurorahealthcare.org/services/urgent-care	Yes	35	35
18	Banner Urgent Care	http://urgentcareextra.com/	Yes	NA	34
19	Intermountain Instacare	https://intermountainhealthcare.org/services/urgent-care/instacare-clinics/instacare-locations/?loctype=InstaCare	Yes	30	34
20	MD Now Urgent Care	http://www.mymdnow.com/	No	26	30
21	ProHEALTH Urgent Care	http://www.prohealthurgentcare.com/	No	24	30
22	Urgent Team	http://www.urgentteam.com/	No	21	30
23	ZoomCare	http://www.zoomcare.com/	No	28	29
24	Carolinas HealthCare Urgent Care	http://www.carolinashealthcare.org/carolinas-healthcare-system-urgent-care-locations-and-hours	Yes	27	28
25	ExpressCare Urgent Care	http://whywaitintheer.com/	No	23	28

Source: Practice Velocity and National Urgent Care Realty, November, 2016.



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