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LETTER FROM THE EDITOR-IN-CHIEF

Provider Credentialing: An 800-Pound Gorilla

Credentialing has become a recurring nightmare for physicians of all specialties, in every state and in every practice setting. Eager for a fresh start, and energized by new opportunity, we decide to make a job change. Recruiters colorfully praise these openings, as if every job pays more than our current one, is closer to parks and culture, and exists in a region with a lower cost of living and, of course, better weather. After a short courtship, our dream of 300 sunny days per year tips the scales, and we decide to take the plunge. We carefully manage our termination notice to be timed with our new start date, confirm our tail coverage, and happily apply for licensure in our new home state.

Then, shamefully unanticipated, like a New Year’s hangover, it arrives on our doorstep: the credentialing packet. More than a pound of paper, with links to several virtual pounds more, is apparently necessary to ensure that we aren’t criminals, quacks, or uninsurable hacks. There are the expected attestations that we have not been convicted of felonies, are not addicted to drugs, and are not incapable of performing our duties. There are predictable questions about malpractice claims and extra blank pages for the embarrassing job of explaining them. Then there are the acronyms: CAQH, NPDB, FCVS, PDC, ABMS, and the like. And, of course, there is the task, in the words of Richmeister from Saturday Night Live, of “making copies.” Lots and lots of copies: DEA licenses, state medical board licenses, board certifications, and a host of others.

All told, physicians and the practices that hire them spend thousands of hours and billions of dollars every year on credentialing. That’s right, billions—with a capital B. And though some centralization has been adopted, the process remains fragmented, inefficient, and wildly unpredictable. Why? Because that’s just how the third-party payors like it. After all, the harder it is for physicians to get credentialed, the harder it is for them to get paid. And who’s more accomplished at making it harder to get paid than insurance companies? The amount of time it takes to credential a provider with each payor can seem entirely random. For some, it’s 30 days; for others, it’s 6 months. This disparity reveals something ugly: Payors, it seems, have found a legal loophole to restrict trade, costing physicians and their practices billions of dollars in unpaid claims and needless delays.

The problem is even more acute in urgent care, where the doors must remain open 7 days a week, 365 days a year. We simply don’t have the luxury of planning 6 months in advance. When an urgent care practice loses a provider, it is lucky to get a 60-day notice on a voluntary termination (and much less on an involuntary one). Then the practice has to source, recruit, and hire a new provider, which can take months. Once the provider is hired, significant resources must be applied to credentialing. And then the provider waits, often for months, just for the privilege of getting paid. Urgent care operators are often forced to use locum tenens providers to bridge the credentialing gap while delaying the start date of their permanent replacement and thus exposing the practice and its patients to unpredictable risk. In the meantime, the new hires continue to get bombarded with other offers and are frequently lured away, forcing the practice to restart the whole process all over again.

There must be a better way. According to many experts, a more streamlined and centralized credentialing would save billions of dollars. A consistent and legally defined limit on the time it takes for payors to credential new providers would allow practice operators to more predictably time their hires without fear of discontinuity or unpaid claims. Physicians would feel freer to change jobs and pursue new opportunities without the excessive burden of paperwork. Simple reforms like these could easily be introduced into ongoing efforts to reform health care and reduce costs. I wish I were more optimistic about the likelihood this will actually happen.

Lee A. Resnick, MD, FAAFP
Editor-in-Chief, JUCM, The Journal of Urgent Care Medicine
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8 Urgent Care Management of Geriatric Falls

In the decade between 2003 and 2013, falls accounted for 62.6% of nonfatal injuries in the United States. Though many falls in the aged are minor, it is crucial to remember that falls in this population are associated with high morbidity and mortality and loss of independence.

Rebekah Blickendorf, MD

PRACTICE MANAGEMENT

17 From ZoomCare to ZOOM+: What Can Urgent Care Learn?

Urgent care was once considered a novelty model of health care. Now it is a maturing industry, yet it has barely scratched the surface of what is possible. A look at ZOOM+ shows that the industry is still ripe with new possibilities for those willing to imagine.

Alan A. Ayers, MBA, MAcc

CASE REPORT

25 Shin Pain

Shin pain in adolescent athletes is not always simply shin splints. What you find in the physical examination and medical history may point to more serious injuries such as nondisplaced tibial shaft fractures.

Christopher Tangen, DO, and Ryan Shilian, DO

IN THE NEXT ISSUE OF JUCM

Acute ankle trauma is responsible for 10% to 30% of sports-related injuries in young athletes each year in the United States. Lisa Schuerman RN, MSN, APNP, writes that because of the multiple injuries that an ankle can sustain, it is important that practitioners be able to differentiate between those treatable at an urgent care center and those requiring evaluation in an emergency department or at an orthopedic clinic.

DEPARTMENTS

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47 Career Opportunities
What’s the 800-pound gorilla in the room ignored by both urgent care practitioners and urgent care owner-operators? It’s the unwieldy credentialing process. Physicians and the practices that hire them now spend thousands of hours and billions of dollars every year on credentialing. Editor-in-Chief Lee Resnick, MD, FAAP, advocates for shrinking that gorilla down to a manageable size by streamlining and centralizing credentialing, and by legally limiting the time it takes for payors to credential new providers. Are you willing to help make that happen?

Although many falls in the elderly are minor, they are associated with high morbidity and mortality and loss of independence. In our cover article, Rebekah Blickendorf, MD, notes that one fall generally begets more falls: About two-thirds of geriatric patients who fall will have another fall within the following 6 months, and a fall is often the inciting event for a downward spiral of function.

Blickendorf is a second-year emergency medicine resident at the Indiana University School of Medicine in Indianapolis, Indiana.

In our Practice Management section, Alan A. Ayers, MBA, MAcc, shows how ZOOM+ is redefining the future of urgent care around the needs of its community in the U.S. Northwest. In following the ZOOM+ story, other urgent care operators can learn much about attaining revenue growth from a maturing business model.

Ayers is Practice Management Editor of the Journal of Urgent Care Medicine, a member of the board of directors of the Urgent Care Association of America, and Vice President of Strategic Initiatives for Practice Velocity.

In our case report, Christopher Tangen, DO, and Ryan Shilian, DO, caution that not all shin pain is simply shin splints. Stress fractures and acute nondisplaced tibial fractures are also possibilities.

Tangen is Medical Director of Sports Medicine and Ryan Shilian is a Traditional Rotating Intern, both at University Hospitals Regional Hospitals—Richmond Campus, in Richmond Heights, Ohio.

To Submit an Article to JUCM

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

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

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

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FROM THE CHIEF EXECUTIVE OFFICER

UCAOA: Bringing Value to You and Your Urgent Care Practice

P. JOANNE RAY

This year, the UCAOA board of directors will further enhance the ways we assist you with the challenges you worry most about. This focus will help leaders identify, plan for, discuss, act on, deliver, and promote the most relevant suite of products, services, and educational and networking opportunities to meet your needs.

As a UCAOA member, you are empowered to customize your association experience, building on meaningful professional resources that best fit your needs. If you have a center membership, maximize your investment by providing your staff roster to UCAOA to ensure that all team members have access to the many resources and benefits offered.

Through UCAOA leaders, volunteers, and members, we are 6,500 diverse voices driving the urgent care industry forward. Whether you are a new center owner, seasoned clinician, industry business partner, or another part of the multidisciplinary urgent care mix, UCAOA offers education, expertise, and networking opportunities for all stages of center ownership, management, and clinical practice. UCAOA is the leading industry resource for all things urgent care, allowing members to stay ahead of the complex and ever-changing landscape of our industry.

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2. We provide the most comprehensive and multilevel practical, implementable clinical and practice management education that reduces your risk and helps you to improve your skills and urgent care practice.
3. We create opportunities to network with the largest group of multidisciplinary, like-minded urgent care professionals, clients, and potential clients so you can expand your business base and your bottom line.
4. We deliver timely and accurate benchmarking market data so you can have trustworthy criteria with which to measure your own center(s) or learn about your customer base.
5. We promote the role of urgent care to strengthen your image in the industry.
6. We provide UCAOA operations policies and procedures templates to help formalize your center’s documentation.
7. We offer certification and accreditation programs to help differentiate your center and recognize the more traditional processes associated with quality and safety, but also the scope of services provided.
8. We help prepare you to open a new center, expand your business, find the right products and services, and even find mentors and colleagues you can go to with questions about your practice.
9. We bring together volunteer leaders and those who are just starting to work together to improve the practice environment and the tools and resources needed.
10. We provide timely and relevant news, online resources, and a peer-reviewed journal to give you at-the-ready information.

P. Joanne Ray is chief executive officer of the Urgent Care Association of America. She may be contacted at jray@ucaoa.org.

“Whether you are a new center owner, seasoned clinician, industry business partner, or another part of the multidisciplinary urgent care mix, UCAOA offers education, expertise, and networking opportunities for all stages of center ownership, management, and clinical practice.”
Introduction

The U.S. population continues to age. By 2030, one-quarter of Americans will be older than 65 years.1 Falls are a common reason for this population of patients to present for medical care. Approximately 30% to 40% of this group fall each year.2 In the decade between 2003 and 2013, falls accounted for 62.6% of nonfatal injuries3 and were the leading cause in the geriatric population of nonfatal hospital admissions because of injury.4 Falls are also the leading cause of fatal injury in the geriatric population.4 Although many falls are minor, it is crucial to remember that falls in this population are associated with high morbidity and mortality and loss of independence. One fall generally begets more falls: About two-thirds of geriatric patients who fall will have another fall within the following 6 months,5 and a fall is often the inciting event for a downward spiral of function.

Although falls in the elderly are a leading cause of morbidity and mortality, their falls are also a serious concern to practitioners working in urgent care centers because such centers treat many such patients and...
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because the majority of elderly patients continue to live in the community either alone or with family members who assist them. Although falls have the potential to cause serious or fatal injury, two-thirds of falls do not result in serious injury. The urgent care provider can usually intervene in the many nonserious injuries caused by falls. Although patients with obvious life-threatening pathology will present to trauma centers, patients may sustain injuries with potential for significant morbidity, such as subdural hematomas and hip or extremity fractures, from seemingly insignificant trauma. The urgent care provider must maintain a high suspicion for serious injury in the geriatric patient who has fallen and be prepared to transfer the patient to a facility with resources for a comprehensive evaluation.

Just as importantly, the urgent care provider must maintain a high suspicion for why the patient fell. A fall is often a symptom of serious underlying pathology, such as infection, electrolyte imbalance, stroke, or cardiac pathology, even if the patient reports a history of a mechanical fall. The urgent care provider can intervene and prevent future injuries by educating the patient and the family about physical therapy and fall prevention.

**Approach to Evaluation**

**History**

It is crucial to obtain a thorough history of the events surrounding the fall, to frame the approach to the workup, treatment, and case disposition. This is often challenging in a patient population that may have baseline neurocognitive deficits. In such situations, seek input from family and caretakers. Attempt to obtain information from witnesses. Determine a timeline of events:

- How long ago did the fall occur?
- Can the patient or the family estimate downtime?
- If there was a significant delay in presenting for care, why was there a delay, and what changed that caused the patient to present now?

Determining the amount of force and the mechanism of injury is important. Knowing the following can help the provider anticipate injury pattern and stratify the patient’s risk for severe injury:

- The height of the fall
- The surface on which the patient fell
- The point of impact on the body

Because a ground-level fall in an elderly patient can lead to significant injury, avoid the trap of accepting the patient’s conclusion that the mechanism was a minor one. Other medical conditions and certain medications may lead to an increased risk for more severe injuries (Table 1).

The cause of the fall will determine which way to turn in decision-making. There is a great difference in management of falls that are clearly mechanical (e.g., “I tripped on the garden hose while watering flowers”) and falls that might have been caused by syncope or another underlying medical condition (Table 2). Ask about prodromal symptoms prior to the fall such as the following:

- Light-headedness
- Nausea

---

**Table 1. Common Risk Factors for More Severe Injury in Falls**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticoagulation</td>
<td>Fall + syncope or with abdominal, flank, or back pain, hypotension, and light-headedness</td>
</tr>
<tr>
<td>Chronic renal disease</td>
<td></td>
</tr>
<tr>
<td>Liver disease</td>
<td></td>
</tr>
<tr>
<td>Long-term steroid use</td>
<td></td>
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<tr>
<td>Osteoporosis</td>
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</tbody>
</table>

**Table 2. Must-Catch Medical Causes of Falls and Their Red Flag Features**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal aortic aneurysm</td>
<td>Fall + syncope or with abdominal, flank, or back pain, hypotension, and light-headedness</td>
</tr>
<tr>
<td>Acute coronary syndrome</td>
<td>Fall + collapse with chest pain, shortness of breath, diaphoresis, nausea</td>
</tr>
<tr>
<td>Cardiac arrhythmia</td>
<td>Fall + syncope, palpitations, shortness of breath, light-headedness, chest discomfort</td>
</tr>
<tr>
<td>Pulmonary embolism</td>
<td>Fall + syncope, shortness of breath, chest pain, calf swelling and tenderness or both, and immobilization</td>
</tr>
<tr>
<td>Seizure</td>
<td>Fall + seizure activity, post-ictal period, tongue biting, incontinence</td>
</tr>
<tr>
<td>Stroke (ischemic or hemorrhagic)</td>
<td>Fall + focal neurologic symptoms, aphasia, altered mental status, headache</td>
</tr>
<tr>
<td>Structural heart disease</td>
<td>Fall + syncope, chest pain, shortness of breath, light-headedness, murmur</td>
</tr>
<tr>
<td>Subarachnoid hemorrhage&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Fall + syncope, sudden-onset headache, meningismus, and nausea or vomiting (or both)</td>
</tr>
</tbody>
</table>

<sup>a</sup>Editor’s note: for more on subarachnoid hemorrhage, see the case report “Sudden-Onset Severe Headache” in our January 2016 issue: http://www.jucm.com/sudden-onset-severe-headache/.
Shortness of breath
Palpitations

Maintain a high suspicion of syncope, presyncope, or other medical cause of falls that should prompt transfer to an emergency department (ED) for further evaluation.

It is also vital to obtain a current list of medications. Medications can often predispose patients to falls, and polypharmacy is associated with an increased incidence of falls.\textsuperscript{2} Editors note: For more on polypharmacy, see the article “Medication Issues in Urgent Care” in the February 2015 issue of JUCM: http://www.jucm.com/medication-issues-urgent-care/. Table 3 lists medications frequently associated with geriatric falls. Also, the urgent care practitioner should be aware that elderly patients frequently take anticoagulants, which can cause life-threatening internal bleeding from relatively minor trauma.

Ask whether this is the first time the patient has fallen or whether falls are recurring. If falls are a new problem, the provider should consider what could have changed with the patient to predispose them to fall. If this has been an ongoing issue, have the patient and the family made efforts to reduce fall risk? Is there a possibility of old untreated injuries?

Obtaining a brief past medical and surgical history is necessary to uncover potential medical illness as a cause of a fall and chronic conditions that may predispose to falls or are associated with risk for more severe injury. Table 4 lists medical conditions associated with an increased risk of falls.

### Table 3. Medications Associated with Increased Risk of Falls

<table>
<thead>
<tr>
<th>Medications</th>
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<tbody>
<tr>
<td>Anticholinergics</td>
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<tr>
<td>Anticonvulsants</td>
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<tr>
<td>Antidepressants</td>
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<tr>
<td>Antihypertensives</td>
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<tr>
<td>Antiparkinsonian agents</td>
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<tr>
<td>Antiipsychotics</td>
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<tr>
<td>Anxiolytics</td>
</tr>
<tr>
<td>Insulin and secretagogues</td>
</tr>
<tr>
<td>Sedative-hypnotics</td>
</tr>
<tr>
<td>Type 1 antiarrhythmics</td>
</tr>
</tbody>
</table>

Data from Bauer TK, Lindenbaum K, Stroka MA, et al\textsuperscript{6} and Zia A, Kamaruzzaman SB, Tan MP\textsuperscript{7}

### Table 4. Common Medical Conditions Associated with Increased Risk of Falls

<table>
<thead>
<tr>
<th>Conditions</th>
</tr>
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<tbody>
<tr>
<td>Arthritis</td>
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<tr>
<td>Dementia</td>
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<tr>
<td>Epilepsy</td>
</tr>
<tr>
<td>History of stroke (with neurologic deficits)</td>
</tr>
<tr>
<td>Orthostatic hypotension</td>
</tr>
<tr>
<td>Parkinson disease</td>
</tr>
<tr>
<td>Peripheral neuropathy</td>
</tr>
<tr>
<td>Sarcopenia</td>
</tr>
</tbody>
</table>

Data from Homann B, Plaschg A, Grundner M, et al\textsuperscript{8}

that a “normal” blood pressure in an elderly person may actually be low, considering that the population often has slight hypertension.

### Mental Status

Begin with brief orientation questions. Questions about well-known current events may be helpful, as can simply seeing if the patient can provide the history of the fall. Occasionally, patients seem on first interaction to have a normal mental status, but subtle deficits surface as the medical history and physical examination proceed. Family members can help the provider determine whether the patient’s current mental status differs from baseline. Patients with variance from baseline require evaluation in an ED.

### General Examination

Lacerations, skin tears, ecchymosis, and joint deformities may be obvious even in a clothed patient. However, failing to have the patient disrobed can cause a provider to miss significant injuries. Likewise, it is impossible to do a good examination of a knee or hip while the patient is wearing pants, or of a shoulder if the patient does not remove a sweater.

### Head, Eyes, Ears, Nose, and Throat

Be sure to do the following:

- Examine for obvious signs of facial or head trauma such as deformity, ecchymosis, and hematomas.
- Assess pupils for shape and reactivity, and the conjunctiva for hemorrhage.
- Assess extraocular movement for signs of entrapment and nystagmus.
- Examine the nose for septal hematoma.
- Look for signs of basilar skull fractures, which include ecchymosis behind the ear (Battle sign), periorbital ecchymosis, and hemotympanum.

Patients with hematomas, signs of basilar skull fracture, or findings concerning for facial fracture or injury to the globe will need advanced imaging and consultation with a specialist.
Neck and Back
Assess range of motion and palpate for midline tenderness. Midline tenderness, pain with range of motion, and any report of neurologic symptoms (focal numbness or weakness) should prompt placement of a cervical collar and transfer for advanced imaging.

Geriatric Falls
Cardiopulmonary
Look for signs of injuries to the chest wall—for example, crepitus, bruising, or tenderness (especially to anteroposterior compression). Patients with unequal breath sounds will require chest imaging. An absence of breath sounds suggests pneumothorax, although diminished breath sounds at the lung bases may indicate hemothorax. A murmur found on cardiac examination could indicate that a structural or functional cardiac issue caused the fall.

Abdomen and Flanks
Examine the abdomen and flanks for tenderness, distention, and hematomas. Patients who take anticoagulants may require transfer to an ED for large hematomas of the abdominal wall or flank. In the acute setting, abdominal distention associated with abnormal vital signs should prompt immediate transfer to a facility with access to a surgeon, because of concern for hemorrhage.

Extremities
In most patients, the extremity examination can be focused according to pain and presenting symptoms. For patients who are unable to communicate, a systematic approach is required. Be sure to do the following:

- Document areas of swelling, deformity, or ecchymosis.
- Assess painful joints for range of motion, point tenderness, stability, and crepitus.
- Examine the joint above and below the site of injury, and beware of referred pain (e.g., hip pain may present as knee pain, and arm pain could be due to a neck injury).
- Always assess neurovascular status distal to an injury.

Neurologic Examination
In a patient without head or neck injury or focal symptoms, a simple assessment of gross strength and sensation often constitutes sufficient neurologic examination. Patients with any abnormal findings on a neurologic examination will require transfer to an ED for advanced imaging. The Romberg test, in which the patient stands with the feet together and closes the eyes, tests proprioception, the loss of which can contribute to ataxia and falls.

Gait Assessment
Observing the walking patient is a fundamental part of the neurologic examination. Watch for ataxia and a wide-based gait. Have the patient walk with whatever assist device he or she uses at home. The “get up and go” test is a quick and easy way to assess gait: The patient begins seated in a chair. They are instructed to stand up without using the armrests, walk 10 ft (approximately 3 m), turn around, walk back, and return to a seated position in the chair as quickly as possible. Patients should be able to perform this in <16 seconds. Patients who are unable to do so or who have difficulty completing the test require further evaluation of their strength, gait, and balance.

The urgent care provider often has limited diagnostic resources—sometimes only x-ray and point-of-care laboratory testing. The medical history and physical examination are the most important tools. Many patients will need additional diagnostic studies and will require transfer to an ED.

Point-of-Care Urinalysis
Infection can cause gait change and disequilibrium in the aged. High specific gravity could be a sign of dehydration, perhaps leading to positional hypotension. Hemoglobin can be an indication either of renal injury (leading to red blood cells in the urine) or of myoglobin in the urine, which is associated with rhabdomyolysis (muscle death).

X-Rays
Common sites of fracture include the distal radius, the humerus, and the hip. Rib fractures and vertebral compression fractures are also common in the geriatric population. Rib fractures can be difficult to appreciate on chest x-ray, and computed tomography (CT) scanning may be required for diagnosis. Plain films may miss occult hip fracture, especially femoral neck fracture. If clinical concern for fracture persists despite negative findings on film, the patient should be immobilized and referred for additional imaging.

Common Injuries
Skin Tears and Lacerations
Most skin tears and lacerations can be treated in the urgent care setting with irrigation and primary repair. For simple, superficial injuries, wound glue may be suf-
sufficient for closure. Injuries that require suturing can be challenging to repair in the geriatric population because of thin subcutaneous tissue. Techniques for improving success involve suturing through adhesive skin closures (e.g., Steri-Strip closures) placed either horizontally across the wound or vertically along the wound edges. Patients with especially frail skin may not tolerate sutures and may be simply dressed and bandaged and referred for wound care as necessary. Bio-occlusive dressings may be associated with poor healing and thus are not preferred.

Contusions and Hematomas
Contusions and hematomas due to falls are usually self-limited injuries that can be treated with ice and analgesia. Patients who have large contusions or hematomas and are taking anticoagulants may require ED referral for CT scanning. This is especially true of abdominal wall hematomas, which can be of large volume, or flank hematomas, which can be associated with retroperitoneal hematoma or renal injury. Hematomas that appear to be rapidly expanding should raise concern for arterial injury. Apply direct pressure and transfer the patient to an ED.

Sprain and Strains
Muscle strains and joint sprains generally respond well to conservative treatment such as ice and elevation, pain control, and early mobilization. However, pain and symptom management can be difficult in the geriatric population. Nonsteroidal anti-inflammatory drugs should be avoided in patients with renal insufficiency and should generally be used with caution in the geriatric population. Patients with liver disease may be unable to take acetylsalicylic acid. Benzodiazepines are sometimes prescribed for muscle spasm but can lead to drowsiness, instability, and recurrent falls. Before sending patients home, consider how their mobility and their ability to perform activities of daily living will be affected by their injuries. A wrist sprain may be a minor injury for a 22-year-old, but it may render an elderly patient unable to rise from a chair or to use an assist device.

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**Wrist Fractures**
A common fracture pattern after a fall is the FOOSH injury—a fall on an outstretched hand. In geriatric patients, this most commonly leads to fractures of the distal radius. Nondisplaced fractures of the distal radius or the ulnar styloid may be amenable to splinting and outpatient follow-up. Splint preferences vary by provider and may be guided by the recommendations of the orthopedic surgeons that provide follow-up for the urgent care patient. A sugar-tong splint or volar short arm splint is a typical choice. Ensure good follow-up for patients who are given splints, because splints can affect daily functions and the use of assist devices. More frequently, distal radius fractures are significantly displaced with intra-articular involvement, requiring closed reduction. Splint displaced fractures to stabilize the injury, and then transfer the patient to an ED. Open fractures should be covered in a sterile dressing prior to splinting. *Patients with neurovascular deficits, skin tenting, or open fractures require urgent fracture reduction and expedited transfer to an ED.*

**Humeral Fractures**
Mid-shaft or proximal humeral fractures are common in the geriatric population because of osteoporosis and age-related bone loss. These fractures may also result from a FOOSH injury with an extended elbow or with direct impact to the humerus. Proximal fractures that are minimally angulated (<45°) and displaced (<1 cm) and uncomplicated mid-shaft fractures can be treated with a sling and swathe, pain control, and early orthopedic follow-up. *All other fractures require transfer to an ED for orthopedic consultation.* Humeral fractures are associated with several neurovascular complications. A thorough neurovascular examination is essential. Proximal humerus fractures are associated with damage to the axillary nerve or the brachial plexus. Radial nerve injury is a complication seen with mid-shaft and distal humerus fractures. *Any patient with motor or sensory deficits requires immediate ED transfer.*

**Hip Fractures**
The majority of patients with hip fractures will present primarily to an ED. Occasionally, however, a hip fracture will present subacutely. Hip fractures are usually clinically and radiographically apparent. When a provider suspects injury despite negative findings on radiographs, the patient should undergo magnetic resonance imaging or CT scanning to rule out occult fracture. Significant pain with weight-bearing and inability to bear weight are red flags. *Confirmed hip fractures require hospital admission for surgical treatment.* The urgent care provider should document a neurovascular examination prior to transport.

**Head Injury**
Age-related brain atrophy not only increases the risk of intracranial hemorrhage and injury by minor mechanisms but may also delay the onset of signs and symptoms of intracranial hemorrhage, because more blood can collect before there is a change in significant intracranial pressure. Bridging vessel fragility is another important age-related risk factor. Therefore, providers should maintain a high index of suspicion for intracranial injury in geriatric patients. Up to 26% of these patients may present with a normal findings on neurologic examination and still have intracranial hemorrhage. This is especially true of patients who take anticoagulants, including aspirin and clopidogrel. These patients can also have delayed bleeding. Intoxicated patients and those have a history of chronic alcoholism are at high risk as well. *The urgent care provider should have a low threshold for transferring the elderly patient who has fallen to an ED for CT imaging. Giving clear discharge instructions to the patient and their caregivers, including signs and symptoms for delayed intracranial bleeding, is paramount.*

**Neck Injury**
Although most patients with gross neurologic deficits will present to the ED, sometimes significant neck injuries can present subtly. *Have a low threshold to transfer any patient with significant neck pain for CT imaging.* Plain x-rays are no longer the standard of care for evaluating traumatic neck injury and are notoriously difficult to interpret in this age group, given the near omnipresent degenerative changes. A classic injury in the elderly patient who has fallen is central cord syndrome. This occurs from a whiplash injury, because the patient’s neck is extended during impact with an object during a fall. Patients with central cord syndrome present with greater muscle weakness in the upper extremities than in the lower extremities and with loss of sensation to temperature and pinprick in a “cape” distribution. Fracture of the dens is another common injury, and it is potentially unstable. *Patients with any suspected neck injury require immobilization with cervical collar and transfer to an ED.*

**Rib Fractures**
Suspect rib fractures in patients with ecchymosis and tenderness of the chest wall, pleuritic chest wall pain, or pain with anteroposterior compression. Nondisplaced rib fractures are frequently radiographically
Occult, requiring a CT scan for diagnosis. Elderly patients with rib fractures often require admission for pain control and monitoring of their pulmonary status. Rib fractures in the elderly can be deadly because splinting from pain can lead to atelectasis and pneumonia. Have a low threshold for transferring to an ED patients whose respiratory status is limited by pain even if films do not reveal fracture.

**Rhabdomyolysis**

Patients with prolonged or an unknown downtime should have a creatinine kinase level checked, which often requires ED transfer. Rhabdomyolysis as a result of immobility after a fall can lead to significant morbidity and mortality because of renal damage, electrolyte abnormalities, and disseminated intravascular coagulation. These patients will require laboratory monitoring and intravenous fluid administration on an inpatient basis. Signs of rhabdomyolysis include tenderness to the muscle, discoloration of the overlying skin, and dark urine. However, patients may have muscle death without these signs or symptoms.

**Disposition**

Patients whose presentations are concerning for a medical or pharmacologic cause of fall should be immediately transferred to an ED. This is especially important in patients with syncope or presyncope. These patients are frequently admitted for work-up and treatment. Patients with confirmed or suspected significant injuries will require transfer for definitive treatment. Those who are unsteady on gait assessment or who have frequent falls should have a physical therapy assessment. Never hesitate to transfer a patient to an ED if there are immediate concerns about safety in the home.

Even if the patient has no significant injuries after a fall, the urgent care provider has the opportunity to profoundly affect the health of a geriatric patient by identifying modifiable risk factors for falls and counseling the patient and the family about fall prevention. Although the provider may not have the time or the resources to fully address fall-reduction interventions, taking a few minutes to elicit a clear medical history to rule out a medical cause of the fall.

Elderly patients may have significant injuries despite minor mechanisms; maintain a high index of suspicion when obtaining the medical history and performing the physical examination.

If there are red flags during the work-up in these cases, be ready to transfer the elderly to a higher level of care.

Even if the patient has only minor injuries, taking the time to provide education and to ensure good follow-up can have a profound impact on the patient’s health and on the family.

**Other interventions often require input from the primary-care physician, a physical therapist, or another specialist. Although it may not be appropriate for the urgent care provider to modify medications if the cause of falls might be related to polypharmacy, strongly encourage primary-care follow-up for medication modification. If there is concern for visual deficit as a cause of falls, the patient may benefit from an ophthalmology referral. Some patients may benefit from outpatient physical therapy for strength and balance training, home environment assessment and modification, and instruction on how to properly use assist devices.**

**Take-Home Points**

- Falls in the elderly are common and have the potential for great morbidity and mortality.
- Never assume that a fall is purely mechanical; take a few minutes to elicit a clear medical history to rule out a medical cause of the fall.
- Elderly patients may have significant injuries despite minor mechanisms; maintain a high index of suspicion when obtaining the medical history and performing the physical examination.
- If there are red flags during the work-up in these cases, be ready to transfer the elderly to a higher level of care.
- Even if the patient has only minor injuries, taking the time to provide education and to ensure good follow-up can have a profound impact on the patient’s health and on the family.

**References**

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Introduction

The rise of urgent care has put health-care delivery on notice: There is a new, disruptive model, born of consumer frustration and standing as a viable alternative for minor medical episodes. The outdated access paradigm of long primary health-care provider (PCP) appointment waits and lengthy, expensive emergency department (ED) visits was under siege, and would give ground to urgent care, which promised reduced wait times, extended hours, lower prices, and a retail-like customer-service orientation. Since early in the first decade of the 21st century, the urgent care model gained momentum, spread like wildfire, and became the darling of physician entrepreneurs, hospital systems, venture capitalists, and private equity firms looking to cash in on the next big thing in health care.

But within the still-novel urgent care space, further innovation was occurring. ZoomCare, an urgent care...
operator in the area of Portland, Oregon, was hard at work reinventing the incumbent model via its comprehensive integration of mobile technology throughout its patient-service model. Touting itself as the world’s first neighborhood clinic and smartphone-based healthcare delivery system, ZoomCare successfully leveraged its mobile online scheduling feature—an industry first—to take the burgeoning concept of on-demand health care to unprecedented levels of brand differentiation and consumer loyalty in the Pacific Northwest.

**ZoomCare to ZOOM+**

Yet in spite of the surging popularity of the various urgent care models, traditional primary-care proponents held firm to their long-standing admonition: The urgent care model—in exchange for neighborhood convenience, extended hours, and faster service—served to fragment care, hinder preventive medicine, and undermine the concept of a medical home. To deal with that criticism, ZoomCare came up with a resounding answer: ZOOM+.

The original ZoomCare, based in Hillsboro, Oregon, and founded in 2006 by David Sanders, MD, and Albert DiPiero, MD, had already introduced several on-demand health-care innovations, including the following:

- **A full-featured, easily navigable, mobile-ready website:** Showing clinic locations, service offerings, a health-care provider roster, and company press releases
- **Online clinician profiles:** Including a full head-and-shoulders photo, educational credentials, and medical specialty
- **Mobile online scheduler:** Allowing patients to select, from available time slots, the provider they trust, the provider recommended by friends and family, or a provider of the same sex
- **Late-night operating hours:** In some locations as late as midnight, a boon for midday workers and students who cannot miss work or school
- **In-clinic medication dispensing:** Helping to provide faster relief for patients, improved compliance with care instructions, and fewer prescription errors
- **Telemedicine:** Online-based voice consultations and evaluations within the State of Oregon
- **In-house medical specialists:** Reducing the need for outside referrals and helping to facilitate longitudinal care relationships

These and other offerings such as naturopathy and mental health services positioned ZoomCare as an urgent care operator who truly understood the power of innovation, as evidenced by its leveraging of web and mobile technology in ways that the on-demand healthcare space had not really seen. The result was a thriving company that garnered rave reviews and popular acceptance in the Portland area.

Then in May 2015, ZoomCare, largely through an infusion of private equity cash, rebranded and relaunched as ZOOM+. Whereas ZoomCare merely built upon the already popular urgent care model, ZOOM+ has positioned itself as a comprehensive health system, complete with its own insurance, based on the idea of maximizing health and performance rather than merely treating sickness or even pursuing wellness. The company’s new motto of “Twice. ½. Ten” means “Twice the health at half the cost and ten times the delight.” The motto represents the de facto mission statement of ZOOM+ founders Sanders and DiPiero, who set out with the idea to deliver care that is affordable, accessible, and delightful through structural and cultural innovation. In sum, ZOOM+ is proving that the urgent care model can indeed be the complete, on-demand medical home that PCP proponents have declared impractical.

**ZOOM+Notables**

Rather than branching out and extending its primary-care footprint geographically, ZOOM+ opted to go vertical and built atop its preexisting neighborhood clinic platform by investing in infrastructure, technology, and people. The result is a complete health-care system designed to be used every day to achieve maximum human performance. The ZOOM+ model is highlighted by several innovative features, including the following.

**Performance Health Insurance System**

The Performance Health Insurance System is the linchpin of ZOOM+ model, because it is designed to enhance human performance rather than merely treat sickness. The ZOOM+ founders encountered inherent friction when attempting to deliver complete care through the status quo insurance model, so they developed a new insurance carrier. Built from the ground up, ZOOM+ insurance functions like traditional insurance but adds performance-enhancing services that other plans simply are not designed to offer.

Packaged as ZOOM+Plans, this insurance provides total health-care coverage with unlimited primary, urgent, and specialist services via the following payment tiers:

- **ZOOM+Zero:** A zero-deductible plan
- **ZOOM+100**: People fully pay for their own care until they reach their maximum deductible, and then ZOOM+ pays.
- **ZOOM+Gov**: Federally mandated, this option includes gold, silver, and bronze plans. Note that ZOOM+ accepts other private insurance plans but does not take Medicaid or Medicare.
- **ZOOM+Mobile**: Health care that is 100% accessible by smartphone. ZOOM+ members can schedule appointments, access and manage their health records, and book coaching sessions online. After creating an account on the ZOOM+ website, members gain access to a menu portal that allows them to view records, submit questions, see test results, and even speak face-to-face with a provider through their mobile device.
- **Twenty-eight neighborhood clinics**: ZOOM+ is composed of 28 neighborhood clinics located in the Pacific Northwest. With 23 clinics in Portland, Oregon, and 5 in Seattle, Washington, ZOOM+ segments its primary, urgent, and specialist care services into individual ZOOM+ studios to form a small-footprint neighborhood health campus.
- **Culture fit**: ZOOM+ understands that for such a radical health-care model to flourish, it must approach its hiring process with great care in regard to culture fit. Hence, Drs. Sanders and DiPiero place a premium on candidates who are flexible, are adaptable, and can thrive in a dynamic environment. ZOOM+ even goes so far as to eschew the traditional job interview and instead have applicants shadow their potential coworkers throughout a typical workday, and even role-play actual on-the-job scenarios. This process is deliberate and fluid, designed to weed out applicants who are not a great fit with the ZOOM+ brand and ethos.
- **What, When, Where**: ZOOM+ has simplified its scheduling system by replacing its “Schedule a Provider” feature with an intuitive “What, When, Where” web module. On the ZOOM+ home page, a patient can select the service they want (What), the time they want it (When), and the location they want to receive it (Where), using a simple dropdown menu accessible through a smartphone or mobile device. On the basis of their input, the system then displays the best matches. Note that for urgent care visits, ZOOM+ guarantees a visit with a physician assistant (PA) or nurse-practitioner (NP) within 15 minutes, and a visit with an ED physician within 30 minutes.
- **ZOOM+Guru**: Performance Health Insurance members get access to their very own ZOOM+Guru, or personal health assistant. Through these gurus, members can request help and advice in areas such as scheduling care, benefits disbursement, and coordination of follow-up care.
- **Flat and transparent pricing**: There are no price surprises in the ZOOM+ pricing model; every service and procedure has a clearly listed price. Deductibles depend on individual insurance plans for nonmembers.

**ZOOM+Places**
ZOOM+Places is the umbrella under which ZOOM+ provides its specialist, urgent, and primary care with the help of its partners, including Oregon Science & Health University (OSHU). For members of Performance Health Insurance, most services are free of charge. ZOOM+Places employs a team of physicians, doctors of naturopathic medicine (NDs), PAs, and NPs to deliver care through its ZOOM+Advanced, ZOOM+Care, and ZOOM+Primary platforms, which are detailed as follows:

**ZOOM+Advanced**
The ZOOM+Advanced platform provides on-demand access to medical specialists through ZOOM+ partnerships with OSHU and Portland-area hospital systems.

- **ZOOM+Specialists**: Offering 100-plus same-day, no-wait appointments with board-certified specialists in areas such as:
  - Cardiology
  - Dermatology
  - Endocrinology
  - Audiology
  - Ear, nose, and throat
  - Gastroenterology
  - Neurosurgery
  - Pulmonary
  - Podiatry
  - Allergy and asthma
  - Neonatology
  - Nephrology and dialysis
  - Oncology and hematology
  - Ophthalmology and optometry
  - Pain management
  - Rheumatology
  - Speech therapy and occupational therapy
  - Urology

With ZOOM+Specialists, there is no need for a refer-
ral, and procedures and evaluations can be scheduled via smartphone or mobile device. The approach is designed to move away from one-on-one specialist care to a more collaborative, team-based approach to care and wellness.

- **ZOOM+Surgery:** Coming soon, on-demand surgery scheduled from a phone or mobile device
- **ZOOM+Hospital:** Also coming soon, expedited and preferred access to OSHU and Portland-area hospital systems

**ZOOM+Urgent Care**
The ZOOM+Urgent Care platform allows for more than 500 on-demand, no-wait visits each day for injuries, illnesses, and wellness. The platform is broken down as follows:

- **ZOOM+Care:** This is the standard urgent care solution, handled primarily by PAs and NPs, and it features on-site prescription medication 365 days a year. It provides basic urgent care for on-demand injury and illness treatments. It also includes immunizations, vaccinations, laboratory tests, and physical therapy at each clinic.
- **ZOOM+Super:** This program was created to bridge the gap between urgent care and EDs. ZOOM+Super treats 80% of patients who would ordinarily end up going to an ED, but it does so in a fraction of the time and a tenth of the cost. This dramatic reduction in the use of expensive and unnecessary ED resources helps drive down health-care costs. Conditions like fractures, serious infections, kidney stones, and intense headaches can be treated during a ZOOM+Super visit. The entire visit, lasting about 60 minutes, includes x-rays, computed tomography, and ultrasound, as well as a comfortable Super room complete with television, a Wi-Fi connection, and space for accompanying family and friends.
- **ZOOM+Video:** The ZOOM+ telemedicine solution, ZOOM+Video, enables unlimited, worldwide on-demand video visits for minor illness and injury. With the proliferation of mobile devices with high-definition video capabilities, ZOOM+Video is a fast, no-hassle option for minor issues such as rashes, ringworm, pinkeye, and cold sores. Additionally, for nonmembers, the $35 video visit fee is deducted from the final bill if the clinician must refer the patient to a ZOOM+ clinic for in-person treatment. ZOOM+Video is free for members, and most separate insurance plans cover video visits because of the passage of Oregon state law SB144, which requires all video medical visits to be reimbursed by insurance companies.

**ZOOM+Primary**
ZOOM+Primary is the all-inclusive platform for ZOOM+ primary-care services. Its stated mission is to use “food, movement, and medicine” to both attain maximum performance and eliminate most lifestyle diseases such as heart disease and diabetes. ZOOM+Primary is based on three components: cloud-based medical care, ZOOM+Health classes, and health coaching. The platform is divided into five categories of service, with each housed in its own separate studio.

- **ZOOM+Brain:** This program consists of not only mental health services but also brain-performance training to enhance cognitive function and mental focus. Mental health services include treatments for obsessive-compulsive disorder, anxiety, attention-deficit hyperactivity disorder, insomnia, and depression.
- **ZOOM+Performance:** This service is focused on athletic performance, creative energy, and mental acuity. On-site naturopaths take assessments of a patient’s baseline cellular, brain, and athletic benchmarks, then devise commensurate food, movement, and relationships plans to help reach their potential. When a member is beginning a ZOOM+ Performance program, there is first a comprehensive baseline performance assessment, and then subsequent performance sessions based on individual need. The initial assessment and follow-up sessions are free for Performance Health Insurance members, whereas nonmembers are afforded transparent pricing and the option for their insurance plan to cover the fees.
- **ZOOM+Prime:** This service was designed to be a radical departure from the status quo of prescribing drugs and providing reactive care for chronic illness, rather than proactive care as prevention. ZOOM+Prime instead teaches that the modern Western lifestyle and diet is responsible for a majority of chronic illness, and espouses exercise combined with a plant-based diet to prevent and reverse disease. To that end, ZOOM+ even offers a program called Prime 90 designed to help members “get off [their] meds in 90 days” through a combination of plant-based eating, movement, lifestyle coaching, and digital education through video and email support.
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If you’re a physician, entrepreneur or investor looking to develop an urgent care facility, you owe it to yourself to work with consultants who really know their stuff.
ZOOM+Smile: Described as an “Apple Genius Bar for your teeth,” ZOOM+Smile aims to make the traditional dentist appointment as leisurely an affair as a trip to the coffee shop. ZOOM+Smile features Healthy Clean White 57—an on-demand dental-care package that includes an examination, cleaning, and whitening, all in 57 minutes or less, scheduled from a smartphone. If the dentists encounter a problem, they can refer patients to the ZOOM+Smile team for a follow-up visit. Every ZOOM+ member receives one free annual Healthy Clean White 57 service.

ZOOM+Kids: The ZOOM+ pediatric care system is ZOOM+Kids, touted as a program that artfully merges “Montessori and modern pediatrics.” The program delivers complete pediatric care, designed to help parents raise healthy, happy kids. Features include a 24/7 parent hotline, personalized parent coaching, and a movement studio and demonstration kitchen where kids and parents can take healthy lifestyle classes together. ZOOM+Kids currently sees more than 2000 kids a month.

ZOOM+Meds, ZOOM+Labs, and ZOOM+Imaging
Supplementing the ZOOM+Places platforms and supporting members toward achieving their health and fitness goals are the following teams programs:

- ZOOM+Labs: Providing on-demand laboratory tests, although the timetable for results varies depending on the specific type of test.
- ZOOM+Meds: ZOOM+ clinics dispense medications at each of their 28 locations, with home delivery available for members.
- ZOOM+Imaging: On-demand x-rays, computed tomography scans, and ultrasound scans. Results are delivered immediately.

Disrupting and Advancing the Urgent Care Model
Although the urgent care industry has made huge strides toward helping to usher in a better, improved-access paradigm, as a whole it has barely scratched the surface of what is possible. An urgent care operator such as the former ZoomCare, for instance, was already pushing the proverbial envelope with its widespread integration of mobile-friendly technology throughout its platform. With ZOOM+, however, it took the concept of disruption to a new level in the unveiling of the first complete on-demand neighborhood health system in the United States. Offering such a comprehensive platform of services and features, coupled with personal health gurus, collaborative care teams, and performance coaches at the ready, ZOOM+ undoubtedly can be considered a de facto medical home. Hence, by an innovator like ZOOM+, the old PCP admonition about the allure of urgent care serving to undermine complete care was effectively rendered moot.

Admittedly, the ZOOM+ model has the massive advantage of investor capital and its own health insurance, two things many independent urgent care centers do not have access to. The lesson from ZOOM+, however, may be more than just plugging in investor capital to overcome obstacles. Rather, it seems to be more about reimagining what is possible and devising radical new solutions for old problems. Furthermore, adopting that sort of disruptive, pioneering ethos almost always goes back to culture. ZOOM+ notably seeks out business trendsetters and innovators to fill its nonclinical executive roles. With Drs. Sanders and DiPiero at the forefront, ZOOM+ and its disruptive care team is attempting to show what a health-care system can be when it sets out to transform basic urgent care to an inviting human performance campus—all while capturing the high-tech, welcoming vibe of an Apple Genius Bar or neighborhood Starbucks.

Conclusion
What is the takeaway for urgent care operators everywhere? Even when faced with the burden of the status quo insurance model and limited financial capital, you can still seek ways to push the envelope and reimagine what is possible with your service model.

As technology prices fall, are you exploring ways to implement telemedicine into your practice model, for example? Does your clinic offer education for patients on how food and movement can be medicine, thereby lessening patients’ reliance on your prescription pads? Can you find a way to implement mobile-friendly health records and self-scheduling through your website? Is it possible for a urgent care owner-operator association to form its own insurance in the pursuit of human potential, rather than merely curing illness? The possibilities are numerous; the challenge seems to be taking a hard look at your own status quo and figuring out novel and innovative ways to solve problems.

Remember, the urgent care model itself was once considered a novelty. Today, with close to 10,000 clinics nationwide, the industry is still ripe with new possibilities for those willing to imagine.
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**Case Report**

**Shin Pain**

**Urgent message:** Lower extremity injuries are very common in adolescent athletes. Urgent care providers must remember that shin pain is not always simply shin splints.

CHRISTOPHER TANGEN, DO, and RYAN SHILIAN, DO

**Introduction**

Also known as medial tibial stress syndrome, shin splints are described as the painful inflammation of the tibial periosteum, which is generally caused by repetitive physical activity.\(^1\) Repetitive injuries can cause incomplete fractures, or microfractures, of the tibia. These tibial stress reactions can predispose the bone to acute fractures.\(^2\)

**Case Presentation**

A 15-year-old high school athlete fell directly onto his right shin while practicing football. He experienced severe pain and was transported off the practice field, where he was immediately evaluated by his athletic trainer. At that time, the pertinent finding was mid-shaft tibial tenderness to palpation. The athlete was sent home on crutches, and it was recommended that he rest and ice the area and also use ibuprofen for pain. His pain persisted the next day, and he sought treatment in an urgent care center. At that time, he was unable to ambulate because of severe pain, so he used a wheelchair.

Findings on his medical history, surgical history, social history, and family history were unremarkable. He had no allergies, and he was not taking any other medications.

**Physical Examination**

Evaluation of the patient showed the following:
- Temperature: 98.7°F (37°C)
- Pulse: 63 beats/min

On physical examination, the patient was found to be in mild discomfort but was fully alert. No abnormal findings were noted on his cardiovascular and respiratory examinations. Examination of his right lower extremity revealed severe tenderness and also edema overlying the mid-shaft of the right tibia. A tibia-fibula squeeze test of his right leg elicited pain. The leg was neurovascularly intact.
Diagnosis
Acute nondisplaced fracture of the right mid-tibial shaft.

Resolution
The patient’s leg was stabilized in a long leg splint, and he was given crutches and referred to an orthopedic surgeon. Acetaminophen-codeine oral tablets, 300/30 mg, were prescribed for pain.

After orthopedic evaluation within 3 days, the patient was given a long leg cast and was instructed to continue avoiding bearing weight on his right leg. Anteroposterior (Figure 1) and lateral (Figures 2 and 3) tibia and fibula plain film radiographs were ordered. These revealed an acute nondisplaced fracture of the mid-diaphysis of the right tibia (Figures 1, 2, and 3).

Discussion

Medical History
Shin splints are considered to exist on a spectrum of tibia injuries that includes simple overuse injuries from repetitive stress, stress fractures, and acute fractures. Lack of conditioning, imbalances in muscle training, and trauma are factors that lead to worsening injuries. Patients with shin splints will present with a history of diffuse shin pain for up to several weeks. The specific time patients experience pain is an important piece of the medical history. Athletes with shin splints will often report that their pain is worse right after participating in sports, but they will notice their pain with every step they take if they have acute or stress fractures.

Physical Examination
Shin splints generally present with pain along a portion or majority of the tibial border, often with diffuse tenderness. Recent stress fractures or acute tibial fractures will present with specific tenderness to palpation and...
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often have associated soft-tissue swelling at the area of
the fracture and pain with weight-bearing.3

With acute tibial shaft fractures, patients are unable to
bear weight because of severe pain and edema.3 Pain, pulse-
lessness, pallor, paresthesias, and poikilothermia can be
signs of compartment syndrome. Indications for emerg-
ency orthopedic referral within
6 hours include compartment
syndrome, neurovascular injury,
open tibial shaft fractures, and the presence of concurrent
dislocation of the knee or ankle.3

Diagnostic Testing
Plain film radiographs are the first imaging step in the
evaluation of a suspected tibial fracture. If further injury
is suspected, computed tomography imaging and ultra-
sound can be considered for a complicated fracture and
vascular etiology, respectively.

Treatment
General
General treatment of shin splints includes ice, rest,
stretching, avoidance of repetitive injury, physical ther-
apy, and nonsteroidal anti-inflammatory drugs. Athletes
can attempt to prevent shin splints and stress fractures by
running on softer surfaces, performing daily hamstring
and calf stretches, ensuring proper fit of their shoes, and
gradually increasing repetitive stress activities.

Tibial Shaft Fractures
Tibial shaft fractures that are nondisplaced and that
are not comminuted can be comfortably treated by
primary-care physicians and urgent care providers. Ini-
tial treatment of closed tibial shaft fractures involves
immobilization in a long leg posterior splint, applied
with the knee held in 10° to 20° of flexion. If a patient
is having persistent pain after splint placement, it can
be a sign of limb ischemia or compartment syndrome.2

Long-Term Course and Complications
It is important for the patient to avoid weight-bearing
on the affected extremity for 1 to 2 weeks. Then as soon
as the edema subsides (in 2–3 weeks), the cast is changed
to better immobilize the affected area. It usually takes
an additional 1 to 4 weeks for evidence of satisfactory heal-
ing to be detectable on radiographs. At this point, the cast
can be exchanged with a walking cast boot or a short-
leg walking cast. It normally takes 10 to 14 weeks for non-
displaced fractures to heal.3

Potential long-term complica-
tions of immobilization of a nondisplaced tibial frac-
ture include nonunion, malu-
nion, complex regional pain
syndrome, joint stiffness,
infection, and refracture.3

Red Flags
The limb must be examined for palpable bony deformi-
ties, signs of infection, compartment syndrome (the five
P’s: poikilothermia, paresthesia, paralysis, pallor, and
pain), and other vascular injury, all of which require
immediate treatment.4 Cyclical pain, fever, and unex-
plained weight loss can be clues in the medical history
for consideration of fractures from primary or secondary
bone tumors, or from infectious etiologies such as
osteomyelitis.

Take-Home Points
School and recreational sport seasons bring many
patients to urgent care centers for various lower extrem-
ity complaints, and the majority of athletes with shin
pain have shin splints. Primary-care physicians and
sports medicine specialists are appropriate specialists for
recommendations for follow-up and referral in cases of
shin splints that do not heal after initial treatment.

However, because not all shin pain is caused by shin
splints, obtaining a thorough medical history and
conducting a detailed physical examination, along with
interpreting plain films, may lead to discovery of more
serious injuries such as nondisplaced tibial shaft
fractures.3

References

“The specific time patients experience pain is an important piece of the medical history. Athletes with shin splints will often report that their pain is worse right after participating in sports, but they will notice their pain with every step they take if they have acute or stress fractures.”
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Complying with Medical Information Restrictions of the Family Medical Leave Act and Americans with Disabilities Act

Spencer Hamer, JD

Urgent message: Urgent care centers that are subject to the Family Medical Leave Act and the Americans with Disabilities Act are limited on the types of questions they can ask related to employee requests for leave. To avoid legal problems, managers should understand the requirements for leave and implement a process for handling information requests.

Introduction

Two common laws that employers must deal with regarding employee leave requests are the Family Medical Leave Act (FMLA) and the Americans with Disabilities Act (ADA). Not surprisingly, these laws contain a large amount of regulations governing leave rights that may present a stumbling block for many employers. Knowing the acts’ basic requirements is therefore critical.

Family Medical Leave Act

The FMLA applies to employers with 50 or more employees within 75 miles of the worksite of the employee requesting leave. To be eligible, employees must be employed for 12 months and work at least 1250 hours during the 12-month period preceding the leave. Employees can take FMLA leave for a serious health condition of their child, spouse, or parent; birth and care of a newborn; adoption or foster care of a child; a “qualifying exigency” for an armed forces active-duty family member, or care for an injured military service member or veteran.

The employer may request initial medical certification after the employee requests a “serious health condition” leave. It must make the request in writing within 5 business days after learning of the need for leave, or if the leave was unforeseeable, within 5 business days after the leave begins. The employer may request certification at a later date only if it has reason to question the length or appropriateness of the leave. The request must advise the employee of the consequences of failure to provide adequate certification.

A medical certification is sufficient if it states
1. The date on which the serious health condition commenced
2. The probable duration of the condition
3. The appropriate medical facts regarding the condition within the knowledge of the health-care provider who is providing certification
4. That the employee is unable to perform the functions of his or her position

Certification for intermittent or reduced-schedule leave must include the dates on which planned medical treatment is expected, a statement of medical necessity, and the expected duration. The U.S. Department of Labor (DOL) has certification forms (WH-380-E, employee’s serious health condition; WH-380F, family member’s serious health condition) that employers may use.1 Employers may develop their own forms, but they may not require additional information.

If the employee provides an incomplete or insufficient certification, the employer must indicate in writing what additional information is necessary and give the employee 7 days to pro-

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1www.dol.gov/whd/forms/index.htm
A fitness-for-duty certification may only relate to the particular condition that caused the need for leave. It must state that the employee is able to return to work and must specifically address the ability to perform essential job functions. The employer may contact the health-care provider—with the employee’s permission—to clarify fitness to return, but only for the condition at issue. The employee’s return cannot be delayed while clarification is being obtained. Where certification is unclear, an employer may require an independent medical examination at the employee’s expense.

An employer may require certification in accordance with DOL regulations for a “qualifying exigency” arising because a family member is on active military duty. The DOL has a form (WH-384) for this purpose.1

Americans with Disabilities Act
Under the ADA, an employer may not ask about the existence, nature, or severity of a disability except in relation to the job and consistent with business necessity. To justify business necessity, the employer must show that it had some reason for suspecting the employee would be unable to perform essential job functions, or would pose a danger to the health and safety of the workplace.

The business necessity standard may be met before an employee’s work performance declines if significant evidence could cause a reasonable person to ask whether an employee is capable of performing. To establish business necessity, the employer must show that it serves a legitimate business purpose, such as ensuring that the workplace is safe and secure, cutting down on egregious absenteeism, or preventing infectious disease. If business necessity exists, the inquiry may be no broader or more intrusive than necessary, and it cannot probe into unrelated medical conditions. For example, an employer may require a warehouse laborer whose back impairs lifting to be examined by an orthopedist, but not to undergo a test for human immunodeficiency virus. An employer must notify an employee in advance that a fitness-for-duty report will be required.

A medical examination may also be required to determine whether an employee poses a direct threat to the health or safety of the employee or others. Employers have broader rights to demand medical examinations on the basis of a direct threat than for other reasons.

An employee with a prolonged history of illness and absenteeism that has affected job performance may be required to undergo a physical examination to determine whether the employee can do the job, even if it might disclose a disability, if the employee refuses to cooperate with the employer’s less-invasive attempts to obtain this information from the employee’s physician.

An employer may also request medical information if the
employee has requested a reasonable accommodation, such as a leave of absence. Other medical inquiries are generally prohibited. For example, requiring a general diagnosis of an employee’s illness after sick leave is prohibited, because it may perpetuate stereotypes; requiring employees to disclose what prescription drugs they use is prohibited because it could reveal actual or perceived disabilities.

Under both the FMLA and the ADA, information regarding certifications, medical histories of employees or family members, and information collected during permissible inquiries or examinations must be maintained in separate medical files and kept confidential. The employer may disclose such information only to supervisors and managers to determine restrictions and accommodations, first-aid and safety personnel for medical or emergency treatment, and government officials investigating compliance.

Steps for Compliance
Employers covered by the FMLA and/or the ADA should prepare in advance for handling issues regarding medical information. Key components of this preparation include the following:

- Identifying who will be responsible for responding to leave inquiries, and providing the appropriate training
- Preparing and updating employment policies and procedures, such as new-hire documentation and employee handbooks
- Obtaining all appropriate forms necessary for receiving and responding to requests for FMLA and ADA leave
- Providing employees with a clear path to raises issues they may have with the leave-of-absence process.

Although the amount of regulation regarding FMLA and ADA medical information requests is complex, proper planning will enable employers to handle these issues with confidence. However, keep in mind that employment laws change, so your center should consult a lawyer who specializes in them.

“Under the ADA, an employer may not ask about the existence, nature, or severity of a disability except in relation to the job and consistent with business necessity. . . . The employer must show that it had some reason for suspecting the employee would be unable to perform essential job functions, or would pose a danger to the health and safety of the workplace.”
**Azithromycin Versus Doxycycline for Chlamydia**

Key point: Azithromycin is a little less effective than doxycycline for chlamydia.


This study of a population in a youth correctional facility compared the effectiveness of azithromycin with doxycycline in the treatment of chlamydia. A total of 567 participants were randomized to regimens of azithromycin or doxycycline after diagnosis of chlamydia, recommended by the Centers for Disease Control and Prevention. After 28 days a test of cure was performed. Patients were watched closely to eliminate chance in contracting the disease again. The cure rate of azithromycin was 97%, whereas it was 100% for doxycycline. Although those findings are not definitive, the study does provide good information. Acute-care providers should balance the ease of treatment (one dose with azithromycin) with cure rates and also let patients know that the easier treatment may fail.

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**Do CT Scans Make Lumbar Puncture Unnecessary in Sudden-Onset Headache?**

Key point: Can lumbar puncture be skipped in evaluation of subarachnoid hemorrhage?

Citation: Blok KM, Rinkel GJ, Majoie CB, et al. CT within 6 hours of headache onset to rule out subarachnoid hemorrhage in nonacademic hospitals. Neurology. 2015;84:1927–1932.

Two previous studies revealed a negative predictive value of almost 100% for third-generation computed tomography scans read by university-based radiologists for patients considered at risk of subarachnoid hemorrhage. This study considered findings for scans done with third-generation scanners and read at community facilities within 6 hours of onset of symptoms. A total of 760 patients were scanned. In only 1 of the patients was a mild subarachnoid hemorrhage missed, for a negative predictive value of 99.9%. Although this is not a frequent diagnosis made during urgent care visits, the process at emergency departments after patients with sudden-onset headaches leave urgent care centers may soon be changing: The researchers concluded that lumbar puncture can be avoided in patients who undergo computed tomography scans within 6 hours of headache onset. Being aware of the potential change and not creating fear of a...
The authors speculated that this may be the cause of recurrent infections or even treatment failures. Although the findings are well validated enough to change treatment, they do suggest a potential etiology for MRSA recurrence. The authors created an antibiotic bound to an antibiotic that would not enter mammalian cells until cleaved by a cell infected by MRSA. The antibiotic used was closely related to rifampicin. This may eventually provide a way to treat patients frustrated by multiple episodes of infection.

**Lurking MRSA May Cause Recurrent Infections**

Key point: Methicillin-resistant Staphylococcus aureus hiding in cells may cause recurrent infections.


This study investigated the possibility of an intracellular reservoir of methicillin-resistant Staphylococcus aureus (MRSA) that may be susceptible to an antibody-based cure at least in mice. The authors speculated that this may be the cause of recurrent infections or even treatment failures. Although the findings are not well validated enough to change treatment, they do suggest a potential etiology for MRSA recurrence. The authors created an antibiotic bound to an antibiotic that would not enter mammalian cells until cleaved by a cell infected by MRSA. The antibiotic used was closely related to rifampicin. This may eventually provide a way to treat patients frustrated by multiple episodes of infection.

**Eosinophilia with Long-Term Use of Antibiotics**

Key point: Eosinophilia is more common with the long-term use of antibiotics than previously thought.


It is known that eosinophilia after long-term use of antibiotics is possible, but there is little data on how common it is. Because eosinophilia may portend other allergic consequences, the researchers looked at the incidence of this phenomenon. A total of 826 former inpatients who had a normal eosinophil count before treatment were evaluated. Of these, 210 developed eosinophilia. These patients were also four times as likely to have a rash and twice as likely to have renal injury. Although this population is not a direct parallel to most urgent care patients, the median course of the condition was just over a month. Occasionally, with multiple treatments, acute-care patients could develop longer courses. This should raise concerns for milder allergic reactions and the potential of long-term damage by antibiotics.

**Anakinra for Hidradenitis Suppurativa**

Key point: A recombinant human interleukin-1 receptor antagonist may be a treatment for severe hidradenitis suppurativa.


Nausea and emesis are frequent issues in urgent care centers. Many newer treatments are usually effective at helping, but patient factors occasionally limit their use. In this double-blind, placebo-controlled trial, 80 patients with nausea or emesis were treated with either nasal isopropyl alcohol or saline, and nausea scores were assessed at 10 minutes after treatment. Those in the treatment group averaged a score of 3 on an 11-point verbal numeric response scale, whereas those in the saline group averaged a score of 6. Although the sample size was small, these are interesting findings. For the acute-care provider, this is information to file in the if-all-else-fails category of treatments.

**Stopping Nausea with Nasal Isopropyl Alcohol?**

Key point: Isopropyl alcohol may reduce nausea.


Isopropyl alcohol nasal inhalation may reduce nausea and emesis. Nausea and vomiting are frequent issues in urgent care centers. Many newer treatments are usually effective at helping, but patient factors occasionally limit their use. In this double-blind, placebo-controlled trial, 80 patients with nausea or emesis were treated with either nasal isopropyl alcohol or saline, and nausea scores were assessed at 10 minutes after treatment. Those in the treatment group averaged a score of 3 on an 11-point verbal numeric response scale, whereas those in the saline group averaged a score of 6. Although the sample size was small, these are interesting findings. For the acute-care provider, this is information to file in the if-all-else-fails category of treatments.
Severe hidradenitis suppurativa (HS) is a challenging disease that frequently brings patients to urgent care centers for incision and drainage as well as advice for prevention. Few options for treatment are available. In a small trial in Greece, a total of 20 patients were randomized to treatment with either anakinra (a recombinant human interleukin-1 receptor antagonist) or placebo for severe HS. Improvement was noted in 20% of the placebo group and in 67% of the treatment group. Obviously a biologic therapy such as anakinra would not be started in an urgent care setting, but acute-care providers may want to provide information about this study to patients who must cope with the disease.

Assessing Which Patients with Likely Acute Coronary Syndrome Can Go Home

Key point: Using risk scores and troponin to determine whether to discharge patients with potential acute coronary syndrome can be complicated.


Millions of patients are evaluated every year for symptoms of potential acute coronary syndrome. Finding a way to determine whether their risk is low enough for them to be able to go home can be difficult. This study evaluated clinical risk scores and troponin assay findings to see if a single troponin test can be used to obtain a negative predictive value of 99.5% while still sending 30% of patients home. The following prediction scores were used: modified Goldman; Thrombolysis in Myocardial Infarction (TIMI); Global Registry of Acute Cardiac Events (GRACE); History, ECG [electrocardiograph], Age, Risk Factors, Troponin (HEART); and Vancouver Chest Pain Rule. Troponin I (867 patients) and high-sensitivity troponin T (959 patients) were used for evaluation. Patients with suspected acute coronary syndrome and benign electrocardiographic findings were evaluated by risk score and troponin. Results were very complex. According to the authors, a TIMI score of 0 or ≤1 and a modified Goldman score ≤1 with high-sensitivity troponin T, and a TIMI score of 0 and a HEART score of ≤3 with high-sensitivity troponin I had the potential to achieve a negative predictive value ≥99.5% while identifying >30% of patients as suitable for immediate discharge. For the urgent care provider, this provides some hope for rapid assessment but also underscores the importance of understanding the risk scores and knowing which troponin assay is in use.
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INSIGHTS IN IMAGES

CLINICAL CHALLENGE: CASE 1

This feature 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 e-mail the relevant materials and presenting information to editor@jucm.com.

Chronic Cough and Shortness of Breath

Figure 1.

Case
A 74-year-old man without a significant past medical history presents to an urgent care center reporting 3 days of coughing productive of green sputum, shortness of breath that worsens with exertion, and chills. He says he has a chronic morning cough but states that the sputum has changed color and that his dyspnea has increased. He says he has not had any fever, chest pain, or lower extremity pain or swelling.

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

Differential Diagnoses
- Pneumonia
- Pneumothorax
- Heart failure
- Pulmonary embolism
- Lung cancer

Physical Examination
On examination, the patient was found to be afebrile, and he had a pulse rate of 98 beats/min, a respiration rate of 24 breaths/min, and a blood pressure of 142/88 mm Hg. He was alert and oriented. The physician noticed tachypnea when the patient walked from the waiting room to the examination room.

The patient had decreased breath sounds bilaterally with minimal bilateral symmetric wheezing. He had a regular heart rate and rhythm without murmur, rub, or gallop. His abdomen was soft and nontender without rigidity, rebound, or guarding. He had no pain or swelling of the lower extremities.
His peripheral pulses were 2+ on a scale of 0 to 4 and were equal in all four extremities. The patient’s chest x-ray had the typical appearance of chronic obstructive pulmonary disease (COPD): large, dark lungs; flattened thoracoabdominal diaphragm; and a small, vertically oriented heart (Figure 2).

Diagnosis
The diagnosis was COPD.

Learnings
COPD affects 30 million Americans and is the fourth leading cause of death in the United States. Airway obstruction is present in 14% of white male smokers, compared with 3% of non-smokers. COPD classically encompasses several diffuse pulmonary diseases, including chronic asthma, bronchiectasis, chronic bronchitis, cystic fibrosis, and emphysema. The American Thoracic Society defines COPD as the progressive development of airflow limitation that is not fully reversible.

Most patients with COPD have components of both chronic bronchitis and emphysema. Chronic bronchitis is characterized by a recurrent and productive cough on most days for ≥3 months in 2 consecutive years without another explanation. It is caused by obstruction of small airways. Emphysema results from the destruction of interalveolar septa characterized as having abnormal, permanent enlargement or air spaces distal to the terminal bronchiole without obvious fibrosis. It is caused by enlargement of air spaces and destruction of lung parenchyma, loss of lung elasticity, and closure of small airways.

The medical history should record consideration of fever, cough, dyspnea, chest pain, peripheral edema, and a change from baseline (chronic) symptoms. Inquire about the use of home oxygen and about current or past use of cigarettes.

The physical examination often reveals acute decompensation that is evident when the patient first enters the room, and there is often evidence of tachypnea, diaphoresis, or altered consciousness. Other findings such as the use of home oxygen, pursed-lip breathing, use of accessory muscles, and periorbital cyanosis may indicate impending respiratory failure. The lung examination typically reveals decreased lung sounds with a prolonged expiratory phase, and symmetric wheezing. The extremities should be evaluated for edema and the presence of symmetric pulses.

COPD exacerbations can be safely treated on an outpatient basis with a combination of antibiotics, steroids (inhaled or systemic), and β2-agonist inhalers. Antibiotics decrease the risk of clinical failure.

Immediate referral to an emergency department is necessary if any of the following are present:
- Respiratory distress
- An oxygen saturation of <90%
- Hemodynamic instability
- The possibility of an alternative diagnosis such as pulmonary embolism, pneumonia, pneumothorax, or myocardial infarction
Ankle Injury Sustained During an Amateur Football Game

Case
A 25-year-old man presents to the urgent care center after a backyard game of football in which he twisted his ankle. Because of alcohol intoxication, he cannot remember the mechanism of injury. He reports isolated right ankle pain and is unable to bear weight. On physical examination, he has pain with palpation of the ankle, but there are no gross signs of deformity. An ankle x-ray has already been done by the time you see the patient, and your findings for that x-ray are negative. As you continue the physical examination, however, you palpate the proximal fibula, and he feels pain, so you order a new x-ray.

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

Differential Diagnoses
- Patella dislocation
- Tibial plateau fracture
- Comminuted fracture of the tibial shaft
- Osteolytic lesion of the proximal fibula
- Spiral fracture pathognomonic of physical abuse
Diagnosis
Spiral fracture of the proximal fibula (Maisonneuve fracture; Figure 2).

Learnings
The proximal tibia and fibula are held together by a strong interosseous membrane. When there is a significant ankle injury, typically an internal rotation of the leg on a planted foot (causing external rotation of the foot), this membrane can be torn, with resultant spiral fracture of the proximal fibula, called a Maisonneuve fracture. It may be present even without an ankle fracture.

The mechanism is typically a sports-related injury, but these fractures can also occur from slipping on the ice, running, walking, a motor vehicle accident, or a fall from a height. These fractures are often overlooked because patients typically report pain at the ankle but not at the proximal fibula. If this area is not palpated, a Maisonneuve fracture may be missed. When there is pain with palpation at the proximal fibula, obtain a fibula x-ray to look for a Maisonneuve fracture. This is an unstable fracture and typically requires surgical repair.

Treatment in an urgent care center involves immobilization, use of crutches and avoidance of weight-bearing, and referral to an emergency department (ED) or an orthopedist. Pain medication should be administered.

Consider compartment syndrome when there are signs and symptoms of significant swelling, severe pain (often out of proportion to the pain level expected for the injury), possibly bruising, and paresthesias. Consider other injuries to the joints above and below, as typically is done with orthopedic injuries.

Make copies of the x-rays to send to the ED or orthopedist. If there is suspicion of a significant ankle injury, a stress ankle x-ray can be performed, but if the disposition is to the ED or orthopedics and the patient cannot bear weight, this will be unlikely to change treatment.

Even when there is not a history of pain at the proximal fibula, palpate this location in all ankle injuries to assess for a Maisonneuve fracture.
Generalized Abdominal Pain with Nausea

Case
A 67-year-old man presents, reporting constipation that has lasted 3 days. He has a constant, generalized dull abdominal pain that is intermittently worse, occurring in what he describes as waves. He has nausea and reports that he has vomited once. He reports no blood in the urine or stool, and no weight loss, dysuria or urinary frequency, or dizziness.

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

Differential Diagnoses
- Small bowel obstruction
- Osteolytic lesion
- Gastric malignancy
- Pulmonary infiltrate
- Calcified aortic abdominal aneurysm

Physical Examination
The patient’s medical history reveals hypertension and that he underwent an appendectomy and tonsillectomy in the past. The patient is a nonsmoker and customarily drinks 2 glasses of wine per night. His temperature is 99.2°F (37.3°C), and he has a pulse rate of 104 beats/min, respirations of 16 breaths/min, a blood pressure of 112/78 mm Hg, and an oxygen saturation of 98%. He is alert and oriented, is in no acute distress, and is breathing normally.

The patient’s lungs are clear to auscultation bilaterally. He has a regular heart rate and rhythm without murmur, rub, gallop. He has a well-healed midline abdominal scar, and his abdomen is not distended. He does have mild general-
The Journal of Urgent Care Medicine

Insights in Images: Clinical Challenge

The Resolution

Diagnosis
The patient has constipation (Figure 2).

Learnings
Constipation includes primary motor (neurologic) disorders, defecation disorders, and adverse effects of medications. Constipation is defined by the American Gastroenterological Association as difficult or infrequent passage of stool, hard stool, or a feeling of incomplete evacuation. Prevalence in adults ranges between 2% and 27%, with up to 74% of nursing-home residents using daily laxatives. Constipation-predominant irritable bowel syndrome is abdominal discomfort with two of these three symptoms: relief of pain after defecation, hard stools, or less-frequent stools.

Testing
An acute abdominal series is performed. The urgent care provider interprets the findings as “within normal limits but full of stool.”

Medical History
In patients with apparent constipation, inquire about the initial episode versus chronic constipation, frequency of stools, stool consistency, any need to strain, and pain with defecation. Patients with intermittent constipation and diarrhea may have irritable bowel syndrome. If there is pain associated with the complaint of constipation, ask about the location of pain, its onset (acute vs. gradual), its character (constant vs. intermittent), and any medications used for the pain and whether they have been used in the past.

Concerning associated symptoms include weight loss, fever, blood in the stool or urine, and dizziness. A history of malignancy, radiotherapy, or abdominal surgeries may indicate a diagnosis of cancer or small bowel obstruction.

Treatment
- Exclude secondary causes of constipation.
- Hydrate the patient.
- Instruct the patient to increase intake of dietary fiber.
- Consider the following medications for the patient:
  - Polyethylene glycol (MiraLAX)—osmotic
  - Docusate (Colace)—stool softener
  - Psyllium (Metamucil)—fiber
  - Magnesium hydroxide (milk of magnesia)—saline cathartic
  - Mineral oil—lubricant
  - Lactulose—osmotic
  - Bisacodyl (Dulcolax)—stimulant cathartic

Indications for Transfer to an Emergency Department
- Uncertain diagnosis
- Intractable pain
- Unstable vital signs
- Concurrent abdominal pain in elderly patients
- Presence of red flag symptoms such as the following:
  - Blood in the stool
  - Vomiting
  - Weight loss
  - History of previous surgeries
  - A medical history of malignancy

Figure 1 is by James Heilman, MD, from https://commons.wikimedia.org/wiki/File%3AConstipation.JPG. Figure 2 is modified from Figure 1. The original image is used with permission under a Creative Commons Attribution 3.0 Unported license, which allows adaptation of the image: https://creativecommons.org/licenses/by/3.0/deed.en.
Case
A 32-year-old man with a history of pneumothorax presents to the urgent care after a sudden onset of left-sided chest pain that started 30 minutes earlier when he was inhaling while smoking a cigarette. He reports shortness of breath, dizziness, and diaphoresis.

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

Physical Examination
On examination, the patient had a temperature of 99.7°F (37.6°C), a pulse rate of 138 beats/min, a respiration rate of 40 breaths/min, and a blood pressure of 72/43 mm Hg. He was alert and oriented, sweaty, panicky, and tachypneic. On examination of his lungs, he had decreased lung sounds on the left and clear on the right. He had tachycardia, and his heart had a regular rhythm, without murmur, rub, or gallop. His abdomen was slightly distended, soft, and nontender, without rigidity, rebound, or guarding. He was profusely diaphoretic. He had no swelling or pain in his extremities and no calf muscle pain, and his peripheral pulses were weak and thready.

Differential Diagnoses
- Pneumonia
- Hemothorax
- Lung cancer
- Cardiac tamponade
- Free air under the diaphragm

Tests
Testing for uncomplicated cases involves a chest x-ray performed during inspiration. The conventional wisdom is that an x-ray during forced expiration may show the pneumothorax, but one study found equal rates of visualization for inspiratory...
films and for expiratory films. Patients with chronic obstructive pulmonary disease (COPD) and bullous changes may mistakenly be diagnosed with pneumothorax. Careful review of the chest x-ray and comparison with previous x-rays is important to prevent unnecessary transfer to an emergency department (ED) or placement of a tube thoracostomy, which might worsen the patient’s condition.

A chest x-ray (Figure 2) was performed, which revealed a tension pneumothorax. Note the compressed left lung, the lack of lung markings on the left, deviation of the trachea to the opposite (right) side, and deep sulcus (costophrenic angle) on the left.

Diagnosis
The patient has tension pneumothorax, which is a medical emergency.

Learnings
A pneumothorax can occur from trauma or spontaneously. A primary spontaneous pneumothorax occurs in patients without lung disease; whereas a secondary spontaneous pneumothorax occurs in patients with a history of known lung disease such as COPD or a history of previous pneumothorax. The visceral pleura (outer lining of the lung) approximates against the parietal pleura (the inner lining of the thoracic cavity). When air enters the space between the visceral and parietal pleura, it will be evident on chest x-ray as a dark, air-filled cavity; that is a pneumothorax. The most common underlying causes of spontaneous pneumothorax are COPD and tuberculosis. A proposed mechanism of spontaneous pneumothorax is rupture of subpleural bullae into the pleural space (the space between the visceral and parietal pleura).

Patients with pneumothorax usually report chest pain, shortness of breath, or both. The acuity of onset in nontraumatic pneumothorax may be rapid, during an episode of negative pressure within the intrathoracic cavity, as can occur with inhalation of a cigarette or when inhaling from other types of smoking devices, or it may be gradual with a smaller pneumothorax. Patients typically localize the site of pain to the affected side.

Treatment
- For patients with spontaneous pneumothorax who are hemodynamically stable, observation with a repeat chest x-ray the next day is an appropriate therapy. This should be coordinated with a thoracic surgeon or pulmonologist.
- For patients with a large pneumothorax or one causing symptoms of shortness of breath or hemodynamic instability, the patient should be transferred to an ED for decompression, either with a valve or chest tube.
- If there is evidence of tension, emergency medical services (EMS) should be promptly activated.
- If the patient is hemodynamically unstable and the wait for EMS will be prolonged, needle decompression should be performed in the second intercostal space, midclavicular line, with an 18-gauge catheter placed over the rib. When a rush of air is obtained, remove the needle and leave the catheter in place.

Indications for Transfer to an Emergency Department
- With a small, nonacute pneumothorax in the presence of hemodynamic stability, the patient can be transferred by a private vehicle.
- If the patient is hemodynamically unstable, as evidenced by significant tachycardia, tachypnea, and hypotension, then transfer should be done by EMS.
- With signs of tension pneumothorax, the patient should be decompressed before transfer.

Figure 1 from Brims F. Tension pneumothorax—an alternative view [2014 August 22]. Life in the Fast Lane [blog]. Available from: http://lifeinthefastlane.com/tension-pneumothorax-an-alternative-view/. Figure 2 is a modified version of Figure 1. (Used with permission under a Attribution-NonCommercial-ShareAlike 4.0 International license: http://creativecommons.org/licenses/by-nc-sa/4.0/.)
This month’s column is an update on recent changes to *Current Procedural Terminology* (CPT) codes. Changes for 2016 are fairly minimal.

**Evaluation and Management**

There were two revisions and two additions to the “Evaluation and Management” section. Add-on codes 99354, “Prolonged evaluation and management or psychotherapy service(s) (beyond the typical service time of the primary procedure) in the office or other outpatient setting requiring direct patient contact beyond the usual service; first hour,” and 99355, “...each additional 30 minutes,” were revised to add the term psychotherapy in the description.

Some good news in this section is that there are now two new add-on codes that allow billing when clinical staff provide prolonged care:
- 99415: “Prolonged clinical staff service (the service beyond the typical service time) during an evaluation and management service in the office or other outpatient setting, direct patient contact with physician supervision; first hour”
- 99416: “...each additional 30 minutes”

The payors will have their own rules for billing and payment, but these codes do appear on the Medicare Physicians Fee Schedule (MPFS), at nominal rates of around $9.00 for code 99415 and $0.80 for code 99416, depending on your Medicare jurisdiction.

**Cerumen Removal**

The one addition to the “Auditory System” section has been long overdue. Code 69209, “Removal of impacted cerumen using irrigation/lavage, unilateral,” has been added. This code cannot be reported with code 69210 for the same ear, and it still must be reported only when the cerumen is impacted. This code will be reimbursed by the Centers for Medicare & Medicaid Services at rates of $10 to $15, depending on what Medicare jurisdiction you are in, according to the MPFS. It has a professional component/technical component (PC/TC) indicator code of 5, which identifies codes that describe services covered incident to a physician’s service when provided by auxiliary personnel employed by the physician and working under the physician’s direct personal supervision.

**Radiology**

The “Radiology” section and guidelines have been updated, and codes were added to specify the number of views taken. The written report has been further defined as being handwritten or electronic. Many revisions have been made where the term images replaces the term film. There were 14 revisions, 21 additions, and 25 deletions.

Code 72080, “Radiologic examination spine; thoracolumbar junction, minimum of 2 views,” was revised. Code 72090 was deleted, and we are directed to use new codes instead:
- 72081: “Radiologic examination, spine, entire thoracic and lumbar, including skull, cervical and sacral spine if performed (eg, scoliosis evaluation); one view”
- 72082: “...2 or 3 views”
- 72083: “...4 or 5 views”
- 72084: “...minimum of 6 views”

Several changes were made in the “Lower Extremities” section:
- Code 73500 was deleted and replaced with new code

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*1https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/index.html*
73501: “Radiologic examination, hip, unilateral, with pelvis when performed; 1 view.”
- Code 73510 was deleted and replaced with new codes 73502, “Radiologic examination, hip, unilateral, with pelvis when performed, 2–3 views,” and 73503, “Radiologic examination, hip, unilateral, with pelvis when performed, minimum of 4 views.”
- Code 73520 was deleted and replaced with new codes 73521, “Radiologic examination hips, bilateral, with pelvis when performed, 2 views”; 73522, “Radiologic examination hips, bilateral, with pelvis when performed, 3–4 views”; and 73523, “Radiologic examination hips, bilateral, with pelvis when performed, minimum of 5 views.”
- Codes 73530 (“Radiologic examination, hip, during operative procedure”) and 73540 (“Radiologic examination, pelvis and hips, infant or child. Minimum of 2 views”) were deleted, and we are now directed to new codes 73501, 73502, and 73503, as already described here.
- Code 73550 was deleted and replaced with new codes 73551, “Radiologic examination, femur; 1 view,” and 73552, “Radiologic examination, femur, minimum 2 views.”

Codes 73530 and 73540 were deleted.

Vaccines
The “Medicine” section had 50 revisions, 14 additions, and 19 deletions. Most of these were in the “Vaccines/Toxoids” section. The use of the codes did not change, but the vaccine and toxoid codes were revised to include the vaccine or toxoid abbreviation, and the number of doses. For example, code 90655, “Influenza virus vaccine, trivalent (IIV3), split virus, preservative free, when administered to individuals 3 years and older, for intramuscular use,” was revised to add (IIV3) to the code.

New codes are as follows:
- 90620: “Meningococcal recombinant protein and outer membrane vesicle vaccine, serogroup B (MenB), 2 dose schedule, for intramuscular use”
- 90621: “Meningococcal recombinant lipoprotein vaccine, serogroup B (MenB), 3 dose schedule, for intramuscular use”
- 90625: “Cholera vaccine, live, adult dosage, 1 dose schedule, for oral use”

Codes 90645 and 90646 were deleted.

Nebulizer Administration
In the “Pulmonary” section, code 94640, better known as a nebulizer treatment, was revised to include therapeutic purposes and sputum induction.
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Data from the 2014 Urgent Care Chart Survey of 1,778,075 blinded visits by patients to more than 800 different urgent care clinics, conducted by the Journal of Urgent Care Medicine, reveal that for 2014, the top three diagnosis codes at U.S. urgent care centers involved, in descending order:

- Wounds, 15.9%
- Sinusitis, 11.4%
- Respiratory conditions, other, 11.2%

The bottom three diagnosis codes involved, in descending order:

- Influenza, 1.6%
- Tonsillitis, 1.5%
- Gynecologic issues, 1.5%

The survey’s methodology and data abstraction forms were initially designed in 2008 by researcher Robin M. Weinick, PhD, then an assistant professor at Harvard Medical School and a senior scientist at the Institute for Health Policy at Massachusetts General Hospital, and now associate director of RAND Health.
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