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Urgent Care
Association
of America



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Also in this issue

17 Case Report

Acute Severe Thigh
Pain While Running

21 Practice Management

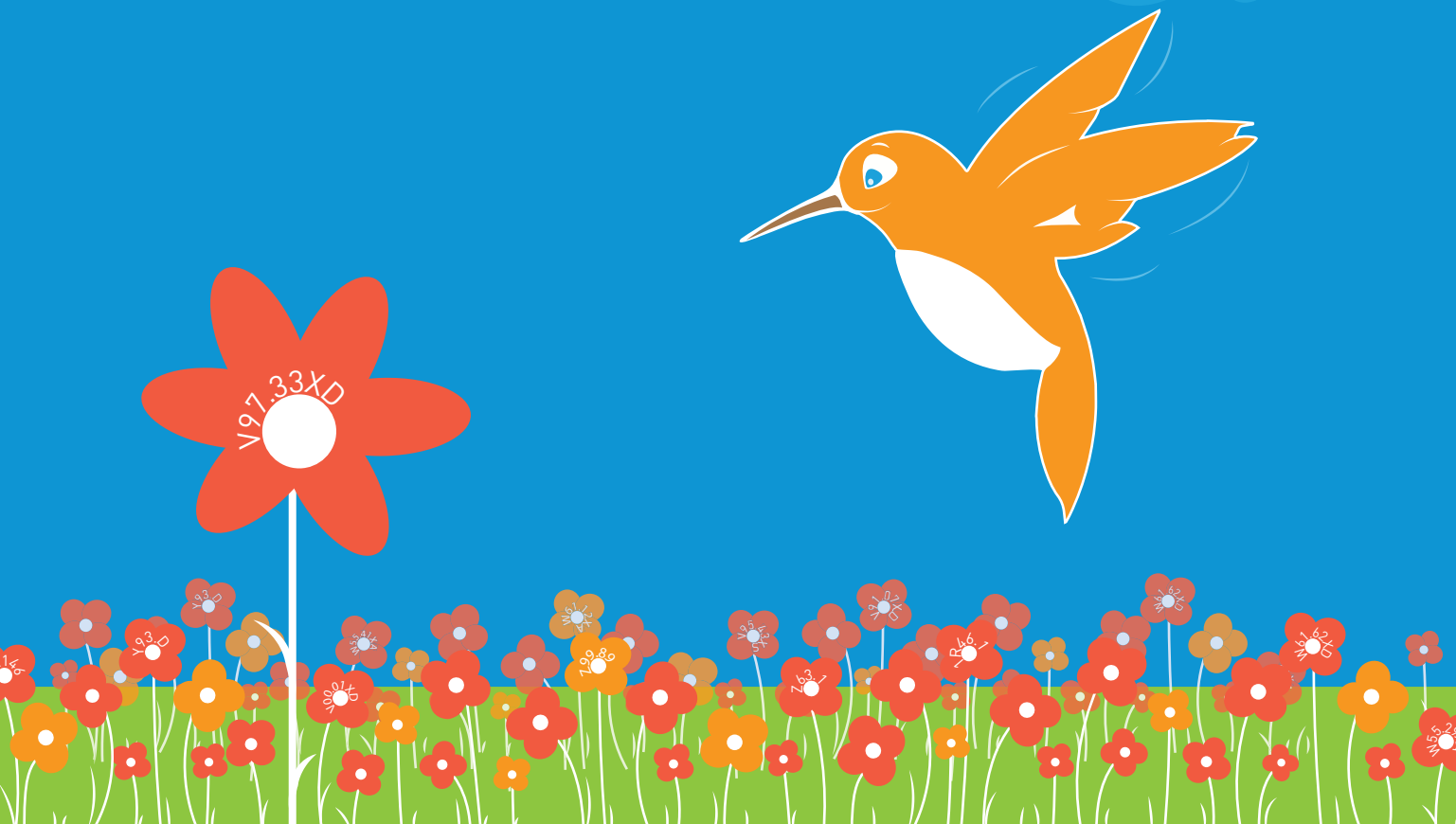
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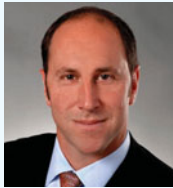
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LETTER FROM THE EDITOR-IN-CHIEF

Maintenance of Certification: A Punch in the Gut



In an era of plummeting leverage and influence over health care and the well-being of our practices and patients, physicians desperately need representation. Our collective voice has been muzzled and utterly dismissed when it comes to health-care delivery and economics. We have essentially been relegated to serving as the voice of public health and clinical best practice, nothing more. How did we get here, and what are our representatives in our professional organizations doing to overcome this situation?

In previous columns I have discussed the nearly unbearable regulatory and compliance environment we are forced to practice within. Most of these conditions have been imposed on us by outside forces with self-serving agendas. Surely our own physician societies are fighting hard to regain control over our profession and to push back against the undue burden and suffocating weight of rules and requirements? Well, unfortunately not. In an almost unfathomable move, boards that are members of the American Board of Medical Specialties (ABMS) have added to our hardship by bloating the certification process with requirements for maintenance of certification (MOC) and recertification that for most physicians are simply too much keep up with. And yet, despite the dearth of evidence that these added requirements improve outcomes, protect the public, or make better physicians, we remain subject to the added load.

I have bemoaned MOC before, but a new physician survey from *Medical Economics* has me freshly infuriated: <http://medicaleconomics.modernmedicine.com/medicaleconomics/news/poll-primary-care-physicians-say-moc-does-not-make-them-better>. Of the 2000-plus physicians surveyed, 96% expressed dissatisfaction with MOC, and 95% proclaimed that it does not make them a better physician. A full 75% feel that there should be an alternative way of achieving board certification that does not require testing at all. Despite the nearly unanimous dissent of physicians, our own member societies have ruled otherwise. There are only two possible explanations for why our elected leaders would so blatantly betray us: money or ego. Or is it both?

In clinical research on physicians, *ego bias* is defined as systematic overestimation of the prognosis of one's own patients

compared with the expected outcome of a population of similar patients. It seems like ABMS board members have overestimated their own wisdom and ability to establish the qualifications necessary to certify the most capable physicians. If that is not the case, then perhaps this is all about money. Consider this: The American Board of Internal Medicine spent \$53 million on MOC in 2013. About half of that went to "exam development, administration, and exam delivery." That's \$25 million worth of self-serving influence. Then there's the American Academy of Family Physicians, with its \$100 million annual budget and a bushel of executives paid annual salaries well over \$300,000, flying first class (with their families) hither and thither across the country to attend board meetings.

Where did we go wrong? Well, when you elect an unpaid board of directors to a "nonprofit" organization, and have them serve 1- to 2-year terms, the only consistent voice is really from the executives with money and power and the will to use those tools in their self-interest. Have a different idea for how things should go? It's like the "rogue" Democrat or Republican looking to "reform" an entrenched party with special-interest hands in their pockets. You know how that turns out.

The only way forward is for physicians to collectively expose their specialty societies for their failure to represent. The good news is that this is actually happening in small fits and bursts. The National Board of Physicians and Surgeons is a splinter group aiming to make board certification more rational. The American Board of Physician Specialties has a similar goal. Both are gaining acceptance with disgruntled physicians and, perhaps more importantly, with payers and hospitals. Perhaps the urgent care community and its own elected representatives should demonstrably rally around one or both so that we too can have a home that allows us to practice our chosen discipline without the absurdity of MOC within a specialty we no longer practice. Imagine that! ■

Lee A. Resnick, MD, FFAFP

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



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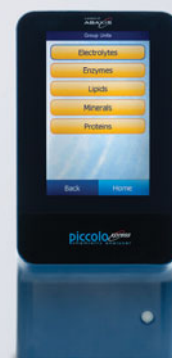
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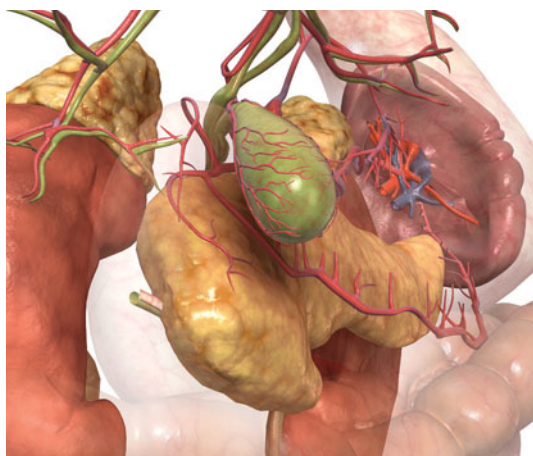
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July—August 2015

VOLUME 9, NUMBER 10



CLINICAL

9 Hyperbilirubinemia: An Urgent Care Approach

Urinalysis results should not be interpreted superficially. Abnormal findings could be a harbinger of serious systemic pathology.

Natalie Smith, MS, PA-C

◀ An anterolateral view (right side) of the accessory digestive organs relative to the digestive system. The stomach is semi-transparent and the kidneys are included.

CASE REPORT



17 Acute Severe Thigh Pain While Running

Sports participants who jump or change direction at high speed are at risk for injuring their quadriceps complex. Improper treatment may rule out a return to full athletic activities.

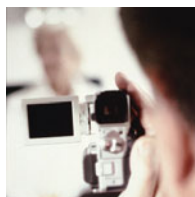
Tracey Quail Davidoff, MD

PRACTICE MANAGEMENT

21 Implications of Patients Recording Urgent Care Provider Encounters

Learn the legal and privacy implications before any patients decide to record their interactions with your center's health-care providers. Protect your center with policies and training that address this issue.

Alan A. Ayers, MBA, MACC



BOUNCEBACKS



26 A 34-Year-Old Man with Left Side Pain

Left side pain—serious or not? The first step in excluding life-threatening diseases is to consider them.

Michael B. Weinstock, MD, and Mizuho Spangler, DO

IN THE NEXT ISSUE OF JUCM

Should you require background checks and drug screening only before you hire members for your urgent care team? Or should you conduct ongoing vetting and testing? Read our Practice Management article to learn the 5 reasons such assessments are vital for urgent care centers.

DEPARTMENTS

- 7 From the UCAOA President
- 31 Insights in Images
- 35 Abstracts in Urgent Care
- 37 Coding Q&A
- 41 Developing Data

CLASSIFIEDS

- 39 Career Opportunities

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JUCM The Journal of Urgent Care Medicine supports the evolution of urgent care medicine by creating content that addresses both the clinical practice of urgent care medicine and the practice management challenges of keeping pace with an ever-changing healthcare marketplace. As the Official Publication of the Urgent Care Association of America and the Urgent Care College of Physicians, *JUCM* seeks to provide a forum for the exchange of ideas and to expand on the core competencies of urgent care medicine as they apply to physicians, physician assistants, and nurse practitioners.

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Yes, urinalysis has limitations for routine diagnoses: false positive findings because of vaginal contamination, and nitrite false positive findings because of exposure of the urine dipstick to air. But that does not mean that its potential as a powerful diagnostic tool should be overlooked. In this issue's cover article, Natalie Smith, MS, PA-C, explains that abnormal urinalysis results can be a harbinger of serious systemic pathology: The patient who believes she has a urinary tract infection may instead have a life-threatening disease.



Smith is Clinical Assistant Professor, Department of Physician Assistant Studies, East Carolina University, Greenville, North Carolina, and is a practicing physician assistant in emergency medicine.



Summer is a great time to get outdoors and take part in sports. Competitors who do a lot of jumping or make sudden directional changes may end up with thigh injuries. Author Tracey Quail Davidoff, MD, presents a case report that will help you properly assess these injuries so that your patients can avoid permanent loss of muscle strength and function.

Davidoff is an urgent care physician at Accelcare Medical Urgent Care in Rochester, New York, is on the Board of Directors of the Urgent Care College of Physicians, and is a member of the JUCM Editorial Board.

In this issue, we are pleased to bring back our popular *Bounce-backs* feature, which follows the trail of puzzling charting, missed diagnoses, and undertreatment. This time around, authors Michael B. Weinstock, MD, and Mizuho Spangler, DO, tell the tale of a man in his thirties with "left side pain"—but left side of what?



Weinstock is Associate Clinical Editor for JUCM; Adjunct Professor of Emergency Medicine, Ohio State University; Chairman and Director of Medical Education, Mount Carmel St. Ann's Hospital Department of Emergency Medicine, Columbus, Ohio; Editor-in-Chief, *Urgent Care: Reviews and Perspectives (UC:RAP)*; and Risk Management Section Editor, *Emergency Medicine Reviews and Perspectives (EM:RAP)*. Spangler is Assistant Professor of Clinical Emergency Medicine at LAC+USC Medical Center Department of Emergency Medicine, Los Angeles, California, and Executive Editor, *UC:RAP*.



Today people record audio and video in many different settings with their smartphones. In this issue's *Practice Management* feature, Alan A. Ayers, MBA, MAcc, writes about the risks that recording health-care visits pose to patient safety

and privacy and to trust between patients and health-care providers. Have you set up policies and conducted staff training to avoid those risks?

Ayers is Practice Management Editor for JUCM, is on the board of directors of the Urgent Care Association of America, and is Vice President of Concentra Urgent Care.

Also in this issue:

Sean M. McNeeley, MD, and the **Urgent Care College of Physicians** review new abstracts from the literature on the effectiveness of sumatriptan in migraine with aura, medication-induced ketoacidosis in type 2 diabetes, the persistence of MRSA and antibiotic choices for it, insoles for plantar fasciitis, and slow-healing burns.

In Coding Q&A, **David Stern, MD, CPC**, discusses changes in coding for fractures under ICD-10-CM.

Our Developing Data piece details the frequencies at which various classes of medications were prescribed at U.S. urgent care centers in 2014. ■

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FROM THE UCAOA PRESIDENT

Reach Out and Get Involved

■ ROBERT R. KIMBALL, MD, FCFP

If you are reading this, you have some involvement in our industry as an owner, manager, clinician, or vendor. Your national organization, the Urgent Care Association of America (UCAOA), has made tremendous strides in recent years to represent us nationally through its vibrant Health and Public Policy Committee and a strong consultant-lobbyist in Washington. We have been to Washington and met with movers and shakers, and we plan to do so again this fall. With all the talk and new regulations promoting the remodeling of primary care as the salvation of health care in America, it is very important that we be on the radar of Medicare and the other big players.

To some extent, the degree of influence we exert will complement the experiences of the bureaucrats and politicians and their families, in your clinics, in their own hometowns. The quality of work we provide every day in our urgent care clinics speaks to the growing importance of urgent care in our communities and helps make the case that urgent care should play an important role in healthcare reform as a partner to primary care—and yes, even to hospitals. Our focus on acute-care medicine can certainly help with the overcrowding in emergency departments. And some of us can play a role in bridging a patient's discharge from the hospital, returning them to their primary-care provider, and even reducing readmissions.

UCAOA depends upon volunteers. We necessarily tend to focus on the national scene even though, as we all know, the rubber meets the road at the state level. We have developed a memorandum of understanding template to define the relationship between us, nationally, and state or regional chapters. We have two groups almost ready to go, representing a terrific milestone for us. Also, we are identifying key contacts to monitor activity in each state while building state-level resources on our website.



Robert R. Kimball, MD, FCFP, serves as president of the Urgent Care Association of America. He is Medical Director of Piedmont Healthcare Urgent Care in Statesville, North Carolina.

“UCAOA depends upon volunteers. We necessarily tend to focus on the national scene even though, as we all know, the rubber meets the road at the state level. ... It is important to recognize that the power, the driving force ... is ... the volunteers.”

It is important to recognize that the power, the driving force behind this organization, is people like you, the volunteers who populate your committees and your board of directors. To ensure our collective success, we must enhance our political footprint in every state and involve volunteers who represent all models of urgent care. This starts with you. Join a UCAOA committee (<https://ucaoa.site-ym.com/?Committees>) that reflects your interests. Reach out and get involved in your local community through the Chamber of Commerce, local causes and charities, an interview on your local radio station, or a letter to the editor. Get to know your state and national representatives. The point is that there are myriad ways to improve our visibility and influence. Download the UCAOA Media Member Toolkit (<https://ucaoa.site-ym.com/store/ListProducts.aspx?catid=452675>) for more ideas.

Gaining political capital *before* there is a major issue—and the issues are starting to come—is key. We need some friends in high places and low places, nationally and locally. We need the payers and players to understand the benefit we bring to health care in general and to our local communities. Access, affordability, convenience: this is how we want people to perceive urgent care. Please help us give this industry a stronger, more secure role on the healthcare stage. Get involved today. ■

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— **BRANDON PENICK**

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Hyperbilirubinemia: An Urgent Care Approach

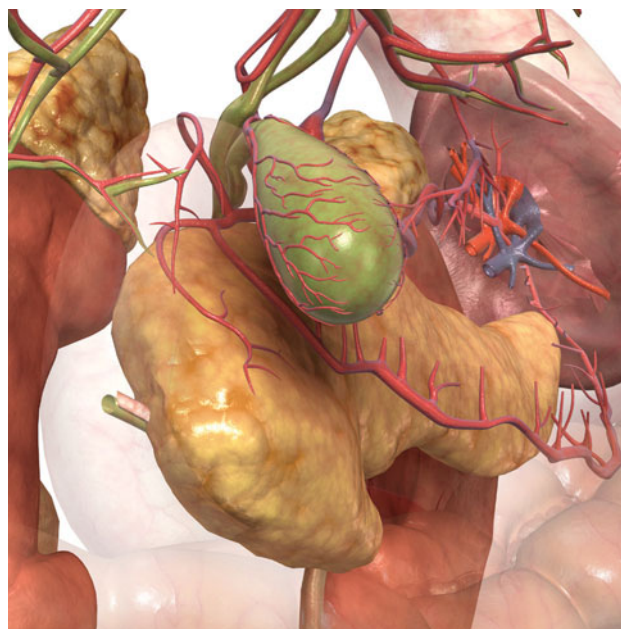
Urgent message: Although frequently overlooked, routine urinalysis results can serve as an important diagnostic indicator of underlying and potentially life-threatening systemic disease states.

NATALIE SMITH, MS, PA-C

Introduction

Urinalysis is one of the most common diagnostic tests used in and urgent care medicine. Urinalysis results yield routine clinical information necessary for everyday diagnoses localized to the renal and urologic systems; findings such as pyuria indicative of cystitis or hematuria related to renal calculi are some commonplace examples. However, there are known limitations to urinalysis interpretation for these routine diagnoses, including leukocyte esterase false positives from vaginal contamination (for urinary tract infections [UTIs], a sensitivity of 72%–97% and a specificity of 41%–86%) and nitrite false positives from contamination or exposure of the urine dipstick to air (for UTIs, a nitrite sensitivity of 19%–48% and a specificity of 92%–100%).¹ These inconsistencies often lead health-care providers to rely on microscopic urinalysis findings for more objective information or to base their diagnoses on clinical indicators consistent with suspected pathology despite apparently normal urine dipstick findings.

Despite these known limitations, urinalysis should not be overlooked as a potentially powerful diagnostic tool beyond this narrow scope of application. Often it can serve as the first reliable clinical indicator of systemic disease states. It is necessary for urgent care clinicians to properly interpret urinalysis results in their entirety—



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beyond surface-level findings that merely correlate with the presenting complaint and anticipated diagnosis. Abnormal urinalysis results that are overlooked could be a harbinger for serious systemic pathology.

Case

Medical History

A 65-year-old woman reports that she has had dark urine and dysuria for 1 week. The patient says she has

Natalie Smith, MS, PA-C, is Clinical Assistant Professor, Department of Physician Assistant Studies, East Carolina University, Greenville, North Carolina, and is a practicing physician assistant in emergency medicine.

Figure 1. Results of urinalysis.

UA Dipstick	
□ UA Spec Grav	1.020
UA Color	BROWN
UA Appear	CLEAR
UA Glucose	NEG
UA Bill	MODRATE
UA Ketones	NEG
UA Blood	TRACE
□ UA ph	6.0
UA Protein	> = 300
UA Urobilinogen	0.2
UA Nitrite	NEG
UA Leuk Est	TRACE
UA Microscopic	
□ UA WBC	64
□ UA RBC	6
UA Bacteria	1+
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had recurring UTIs and believes this to be the etiology of her current symptoms, and she immediately requests antibiotic therapy for her condition. The patient has a past medical history of hypertension, hyperthyroidism, and gastroesophageal reflux disease. She has no significant past surgical history or pertinent social history. Her current medications include metoprolol, 12.5 mg orally twice a day; levothyroxine, 50 µg orally once daily; and esomeprazole, 40 mg orally once daily.

Physical Examination

During the provider's review of systems, the patient says that she has not had any abdominal, back, or flank pain associated with her symptoms. She also says that she has not experienced any constitutional symptoms such as fever, chills, or myalgia. On further questioning, the patient reveals that she has experienced generalized all-over pruritus without evidence of rash; however, she says that she has not had any localized vaginal pruritus, which was part of the chief complaint documented during triage. Findings on review of systems are otherwise negative.

Findings on physical examination are largely unremarkable. During assessment, the patient is seated and is in no acute distress. The patient's abdomen is soft and nontender. There are normal abdominal bowel sounds in all 4 quadrants, and no rebound or guarding or peritoneal signs are present. No Murphy sign is observed,

there is no organomegaly, and there is no bilateral costovertebral angle tenderness. However, the patient does have a slightly icteric appearance, which neither the patient nor accompanying family members are aware of; they appear somewhat bewildered at the suggestion of such a state, reiterating that the patient has a UTI and merely requires antibiotic treatment. The patient's vital signs are as follows:

- Blood pressure, 146/87 mm Hg
- Pulse, 88 beats/min
- Respiratory rate, 16 breaths/min
- Temperature, 36.8°C
- Oxygen saturation, 98% on room air

The health-care provider orders urinalysis; findings are shown in **Figure 1**.

Discussion

Review of this patient's urinalysis elicited immediate concern. I use the word *concern* in the sense that only urgent care and emergency department (ED) clinicians can appreciate. This demographic of clinicians is notoriously unimpressed and is generally not overwhelmingly concerned with chronic disease states marked by lack of acuity. A "concerned" ED or urgent care provider typically implies recognition of an immediate or impending threat to life or limb.

A superficial assessment of the urinalysis findings may lead a clinician to generally agree with the patient's belief that she does indeed have a UTI and would benefit from antibiotic therapy: 64 white blood cells (WBCs) present on microscopy (with >5 WBCs being significant in women) and 6 red blood cells (RBCs) present on microscopy (with >3 RBCs considered significant) also correlated clinically with the patient's reports of "dark urine," dysuria, and urinary frequency. In addition, taking into account the notoriously unreliable nature of negative findings for nitrite and leukocyte esterase (often false negatives), this is not an unreasonable conclusion to make. However, a diagnosis of UTI is not a legitimate explanation for the remainder of the urinalysis findings. The most concerning finding requiring explanation is the problem of bilirubinuria. Absolutes are hard to come by in medicine, but it can be reliably stated that bilirubin in the urine is never normal and often indicates underlying systemic pathology.

Urine does not normally contain detectable amounts of bilirubin.¹ Unconjugated bilirubin is not water soluble and therefore by definition cannot pass through the glomerulus. Conjugated bilirubin, however, is water soluble

and when present in the urine represents a state of bilirubinuria, yielding a positive bilirubin result on urinalysis. The presence of bilirubinuria directly implicates underlying hepatobiliary disease that must be investigated.¹ The only false-positive bilirubinuria results that can occur may be seen if the patient is concomitantly taking the drug phenazopyridine (Pyridium) or the nonsteroidal anti-inflammatory etodolac.^{1,2} Findings of bilirubinuria should prompt the clinician to elicit a comprehensive medical history will help narrow the differential diagnosis and determine an etiology for the hyperbilirubinemic state. Questioning should include a thorough medical history involving assessment of any conditions that could be associated with hepatobiliary disease, such as right-sided heart failure, diabetes mellitus and obesity, pregnancy (gallstones), irritable bowel syndrome, celiac disease, and thyroid disease. All prescribed and over-the-counter medications, including vitamins or dietary supplements that the patient is taking, should be recorded because they could be responsible for altering the patient's liver function. Surgical history (specifically any pertinent abdominal surgical history)

and family history for inherited liver or hemolytic disorders should be sought. The social history should seek to obtain any medically pertinent information such as travel to any hepatitis endemic regions and any use of recreational drugs or alcohol that could explain or contribute to hepatic dysfunction in the patient. The most reliable physical examination sign associated with an asymptomatic hyperbilirubinemic state is painless jaundice. Other red flags for chronic liver disease include stigmata of liver disease (spider nevi, palmar erythema, gynecomastia, and caput medusae) and signs of hepatic congestion (abdominal ascites, increased jugular venous pressure, palpable liver enlargement).² In the setting of unexplained bilirubinuria, a fundamental understanding of bilirubin metabolism is necessary in order to narrow the differential diagnosis.

Understanding Bilirubin Metabolism

What Is It?

Bilirubin is a yellow catabolic byproduct of normal RBC breakdown. After oxidation, it is responsible for urine's typical yellow appearance and for stool's typical brown

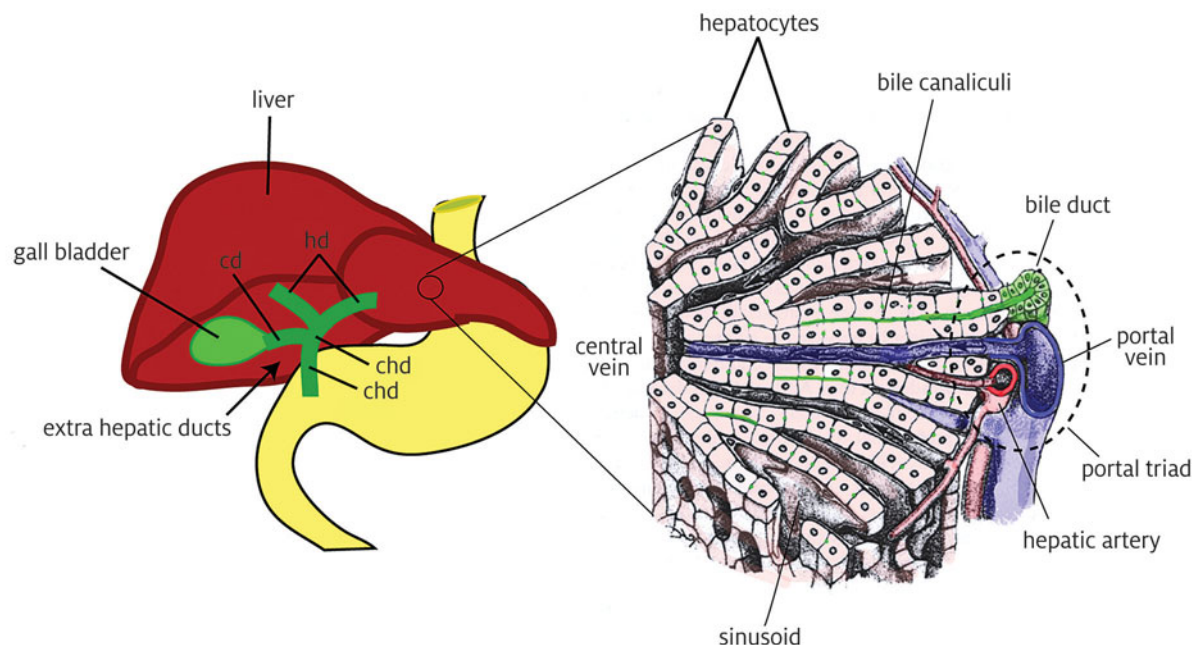


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Figure 2. Hepatic canaliculi, origins of the biliary tree.

(From Zorn AM. Liver development (October 31, 2008). In: Girard L, ed. *StemBook* [Internet]. Cambridge, MA: Harvard Stem Cell Institute; 2008–date unknown. doi/10.3824/stembook.1.25.1. <http://www.stembook.org>. Used with permission under a Creative Commons CC BY 3.0 license (<http://creativecommons.org/licenses/by/3.0>), via Wikimedia Commons. Image available from: https://commons.wikimedia.org/wiki/File%3ACellular_architecture_of_the_liver.jpg.

appearance. There are two fractions of bilirubin, conjugated and unconjugated, that comprise the total amount of circulating bilirubin. It is the total bilirubin that is commonly reported on the comprehensive metabolic panel.

Why Is It Important?

A normal serum bilirubin value is simple to remember: typically around 1 mg/dL. Jaundice typically correlates with a serum value of 2.0 mg/dL. Jaundice cannot typically be appreciated on examination at values below this threshold. Remember to check sclera and beneath the tongue, because these areas are affected first.³ Jaundice is often the first (and possibly the only) sign, on physical examination, of liver disease and hyperbilirubinemia, making its detection extremely important in the evaluation and prognosis of those affected.

Understanding Bilirubin Fractions

Conjugated (Direct) Bilirubin

As heme breakdown occurs, bilirubin is sent from the systemic circulation, where it becomes conjugated by molecules of glucuronic acid in liver hepatocytes. Conjugated bilirubin then travels from the liver into the bil-

iary tree as bile, which is stored in the gallbladder and is periodically excreted into the small bowel to aid in digestion. *Conjugated bilirubin is by definition the only form of bilirubin capable of being detected on urinalysis.* An important aspect of conjugated bilirubin is that it is *water soluble*, which means it can be excreted in the urine by the glomerulus and is recognized on urinalysis simply as “bilirubin.” *Normally there should be no bilirubin detected on a urine dipstick*, and even very small elevations in serum conjugated bilirubin can yield positive results, making this an *early and very sensitive and specific marker for underlying pathology*. If it is detected, urine bilirubin is a clear indication for further investigation for causes of hyperbilirubinemia.³

Predominant elevation in conjugated (direct) fraction of total bilirubin: Think backward leakage of conjugated bilirubin (extrahepatic cholestasis) or decreased excretion of conjugated bilirubin (intrahepatic cholestasis).

Extrahepatic cholestasis: This is extrinsic compression and therefore obstruction of the biliary tree, causing backflow of already-processed (conjugated) bilirubin. Differential diagnoses may include tumors caused by malignancy, choledocholithiasis, ascending cholangitis,

primary sclerosing cholangitis, pancreatitis, cholangiopathy associated with acquired immunodeficiency syndrome, and biliary strictures, all of which are capable of causing backflow of conjugated bilirubin.³

Intrahepatic cholestasis: This is almost any liver disease or state affecting liver function (hepatitis, cirrhosis, drugs or toxins, sepsis or hypoperfusion).³ Please note that liver disease states can often show mixed conjugated and unconjugated hyperbilirubinemia, depending on the stage and location of liver injury. If injury to the liver is extensive, there will be decreased liver function and therefore decreased conjugating ability, as well as decreased liver uptake of bilirubin, causing increased unconjugated fractions. *However, most liver diseases primarily affect canalicular excretion.* If injury is localized to the bile canaliculi, there will be a predominant conjugated pattern of hyperbilirubinemia because there is no impairment in liver conjugating ability, but there is impaired excretion of conjugated bilirubin via the bile canaliculi (**Figure 2**). This is in essence the same concept already described with extrahepatic cholestasis (conjugated hyperbilirubinemia due to obstruction of bile's normal trek through the biliary tree). It is just an extremely proximal anatomic obstruction, basically at the origin of the biliary tree itself (liver canaliculi). This canalicular obstruction is responsible for sending the conjugated bilirubin back into the systemic circulation and ultimately to the kidney for excretion and detection by urinalysis.^{3,4}

Unconjugated (Indirect) Bilirubin

Unconjugated bilirubin is the majority of circulating bilirubin. It has not been processed by the liver (and thus is unconjugated), and it is therefore insoluble and physically cannot be excreted in the urine or appreciated on urinalysis.

Predominant elevation in unconjugated (indirect) fraction of total bilirubin: Think RBC hemolysis, diminished liver bilirubin uptake, or hepatocyte function.

Overproduction: There is increased unconjugated bilirubin from RBC intravascular or extravascular hemolysis.^{3,4}

Impaired liver uptake or impaired liver conjugating ability: Potential etiologies include chronic hepatitis, cirrhosis, Wilson disease, Gilbert syndrome, certain antibiotics can inhibit glucuronidation (namely, gentamicin).^{3,4}

Urobilinogen

Urobilinogen is another form of bilirubin also measured on urinalysis that is not to be confused with bilirubin on urinalysis. The take-home point regarding

Figure 3. Additional laboratory findings: general hematology and routine chemistry.

General Hematology

<input type="checkbox"/> WBC	*(c) 9.6
<input type="checkbox"/> RBC	4.32
<input type="checkbox"/> Hgb	12.7
<input type="checkbox"/> Hematocrit	39.8
<input type="checkbox"/> MCV (MCV)	92.1
<input type="checkbox"/> MCH (HCH)	29.4
<input type="checkbox"/> MCHC (MCHC)	31.9
<input type="checkbox"/> RDW (RDW)	14.0
<input type="checkbox"/> Platelet	289
<input type="checkbox"/> MPV	H 11.8
<input type="checkbox"/> Neutro Percent	59.8
<input type="checkbox"/> Lymph Percent	25.3
<input type="checkbox"/> Mono Percent	10.7
<input type="checkbox"/> Eos Percent	3.0
<input type="checkbox"/> Basophil Percent	0.7
<input type="checkbox"/> Neut Absolute	5.8
<input type="checkbox"/> Lymphs Absolute	2.4
<input type="checkbox"/> Mono Absolute	1.0
<input type="checkbox"/> Eos Absolute (EOSA)	0.3
<input type="checkbox"/> Baso Absolute (BASOA)	0.1

Routine Chem

<input type="checkbox"/> BUN	H 22
<input type="checkbox"/> Sodium Lvi	138
<input type="checkbox"/> Potassium Lvi	3.5
<input type="checkbox"/> Chloride	H 109
<input type="checkbox"/> CO ₂	L 20.0
<input type="checkbox"/> Glucose Lvi	90
<input type="checkbox"/> Creatine	0.86
<input type="checkbox"/> Calcium Lvi	9.2
<input type="checkbox"/> BUN/CR Ratio	26
<input type="checkbox"/> Anion Gap	9
<input type="checkbox"/> Calc Osmol	278
<input type="checkbox"/> Bili Total	H 6.1
<input type="checkbox"/> Alk Phos	H 374
<input type="checkbox"/> AST	H 336
<input type="checkbox"/> ALT	H 566
<input type="checkbox"/> Total Protein	8.2
<input type="checkbox"/> Albumin Lvi	3.7
<input type="checkbox"/> Globulin	4.5
<input type="checkbox"/> Albumin/Gobulin Ratio	L 0.8
<input type="checkbox"/> GFR Non-African America	L 70.40
<input type="checkbox"/> GFR African American	L 85.18
<input type="checkbox"/> Lipase Lvi	*H 6,272

urobilinogen detection on urinalysis is that it is far less useful than bilirubin detection. Normal urine contains small amounts of urobilinogen; it is what makes urine

yellow. Urobilinogen levels increase if there is any concomitant liver disease that is nonobstructive (bilirubin has to make it to the gut for it to even exist), but the test is sensitive but not specific for this state, and the level of urobilinogen does not increase in proportion to bilirubin overproduction because the conversion of bilirubin to urobilinogen is actually not directly quantitative.^{1,3} Urobilinogen is basically just conjugated bilirubin after it has made its trek through the biliary tree and finally into the intestine, where it is enzymatically converted by gut bacteria into colorless urobilinogen. About half of the gut urobilinogen is taken back up into the systemic circulation and can therefore be filtered by the kidney (because it is water soluble). In the kidney, colorless urobilinogen is then oxidized into yellow urobilin, which is technically the final product of bilirubin metabolism that gives urine its typical yellow hue and is seen in healthy individuals. Urobilinogen that remains in the gut is reduced to brown stercobilin and is responsible for the color of stool.^{3,5} Hemolytic processes or liver diseases (states that generally produce more bilirubin) of course can lead to increased urine levels of urobilinogen. A complete biliary obstruction or broad-spectrum antibiotics that lead to an alteration in gut flora may result in an absence of urinary urobilinogen.^{3,5}

Given this information, it should be understood that “bilirubin” on urinalysis actually implies conjugated bilirubin: It is impossible to appreciate unconjugated bilirubin on urinalysis because it is not water soluble and therefore cannot pass through the glomerulus.⁴ What is your differential diagnosis for bilirubinuria? What is your differential diagnosis for bilirubinuria with painless jaundice? What tests do you want to order?

Subsequent Laboratory Tests Ordered for Further Investigation

Findings for the additional laboratory tests that were ordered for the patient discussed here are shown in **Figure 3**.

Other Serum Testing That Could Be Considered

Other serum tests might produce helpful findings.

Prothrombin time or international normalized ratio:

These are markers for the liver’s synthetic ability to manufacture clotting factors. These values are not typically affected in early course of disease because the body has many clotting factor reserves. If prothrombin time is affected, it is a marker of chronicity and severity.²

Prealbumin: Prealbumin is also a marker of liver synthetic function, and it has a far shorter half-life than albumin (1.9 days vs. 21 days), making it much more clinically useful as a marker for acute alterations in liver synthetic function, because levels fluctuate much more rapidly in response to hepatic injury.²

Basic metabolic and liver function tests (LFTs) instead of a complete metabolic panel (CMP):

The subsequent laboratory investigation for the patient discussed here included an order for a CMP, not an order for a BMP plus LFTs, which would have given the breakdown of conjugated versus unconjugated bilirubin (fractionated bilirubin). Bilirubin fractions in theory seem valuable for classifying the possible etiologies of hyperbilirubinemia. However, this was inherently unnecessary because we know that any bilirubin found in the urine is by definition conjugated bilirubin, which tells us there is a predominant pattern of conjugated hyperbilirubinemia. Positive findings for bilirubin on a urine dipstick test therefore yield the same information that any serum fractionation could, and it is highly accurate.⁶ Also, although there are appreciated patterns and corresponding differential diagnoses in patients who have hyperbilirubinemia, oftentimes these patterns overlap, making fractionation seemingly less clinically useful.⁴ There are also widespread technical dilemmas regarding laboratory accuracy when it comes to serum fractionation of the bilirubin concentration.⁴

Outcome

After inspection of the initial urinalysis findings, your differential diagnosis for this patient should have included causes of conjugated hyperbilirubinemia. Given the asymptomatic presentation, history of present illness, and stable vital signs, your differential should specifically include causes of painless jaundice (and should therefore be narrowed to exclude conditions such as choledo-

Figure 4. Computed tomography findings for a scan of the abdomen and pelvis.

IMPRESSION:

1. A HYPO ATTENUATING MASS MEASURING 2.0 BY 2.1 X 4.7 CM IS PRESENT IN THE PANCREATIC HEAD CAUSING OBSTRUCTION OF THE COMMON DUCT AND RESULTANT INTRAHEPATIC DUCTAL DILATION. THIS LIKEY REPRESENTS A PANCREATIC HEAD ADENOCARCINOMA.

cholithiasis or biliary pain syndromes). Results from subsequent testing (Figure 3) are summarized as follows:

- Dramatic elevation of serum lipase in the absence of abdominal pain, suggesting ongoing secondary pancreatic inflammation (6,272 u/L, in contrast to the normal range of 0–160 u/L)
- A compounded unimpressive pattern of LFT elevation (elevated, but not 20 times the upper limit of normal and dramatically out of proportion to the alkaline phosphatase, as is typically seen in hepatocellular causes such as hepatitis and cirrhosis)

These laboratory findings are most clinically concerning and are consistent with a painless obstructing lesion of the biliary tree. On further questioning, the patient does say that she has had some unwanted weight loss over the past several months and has noted that her stools have become increasingly light in color (acholic) but her urine has become darker. The patient's symptom of diffuse all-over pruritus in the form of cholestatic pruritus also coincides with a diagnosis of hyperbilirubinemia caused by an obstructing lesion of the biliary tree.⁷ The mechanism of cholestatic pruritus is poorly understood, but it occurs because of the impaired secretion of bile and is a common symptom seen in certain forms of liver disease.⁷ After evaluation of these laboratory findings, a computed tomography scan of the patient's abdomen and pelvis, with intravenous contrast, was ordered to confirm a suspected obstructing carcinoma of the pancreas; results appear in Figure 4.

Clinical Pearls

Urobilinogen represents a normal finding on urinalysis, but bilirubin does not. *Do not* ignore a positive bilirubin result on urinalysis.

Unexpected bilirubinuria, as evidenced by positive findings for "bilirubin" on urinalysis, may be the first clinical indicator of serious underlying hepatobiliary disease even before clinical jaundice is appreciated on physical examination.

Positive bilirubin on urinalysis indicates a need for further investigation to rule out hepatobiliary disease. This may include a more detailed medical history for explanation of findings or further work-up and definitive laboratory assessment of hepatic function with a CMP or LFTs).

Disposition

The patient was admitted to the hospital for further treatment and therapeutic endoscopic retrograde

cholangiopancreatography (ERCP). Admission diagnoses included the following:

- Painless obstructive jaundice
- Pancreatic head mass with concern for pancreatic carcinoma
- Acute obstructive pancreatitis
- Metabolic acidosis
- UTI with alpha-hemolytic streptococci, which is what the patient had actually presented for

The patient underwent ERCP for pancreatic duct cannulation via stent placement and was subsequently referred to the surgical oncology service for further intervention and treatment.

Pancreatic cancer has a 25% survival rate at 1 year, and only 5% at 5 years, which is the lowest survival rate of all major cancers. Men and women are equally affected, and risk factors include advanced age (rarely occurring in those younger than 50 years), smoking, obesity, excessive alcohol consumption, and any family history significant for pancreatic cancer.⁸ With the exception of advanced age, the patient discussed here demonstrated none of these risk factors; the ultimate key to her diagnosis was accurate interpretation of her urinalysis findings. The majority of these tumors occur in the head of the pancreas, creating an anatomic predisposition toward obstructive biliary syndromes and positive urinalysis findings for bilirubinuria at presentation, as was seen in this patient.

The case discussed here is a vivid reminder that in medicine, clinicians should always consider the worst possible outcome. Even when a patient's presentation seems unremarkable and routine, the clinician should approach each chief complaint (even alleged vaginal itching) with a high index of suspicion that serious pathology could be present. A case like this one may on the surface seem benign and uncomplicated, but a more meticulous investigation just may reveal a diagnostic wolf in seemingly benign UTI clothing. ■

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Case Report

Acute Severe Thigh Pain While Running

Urgent message: Summer brings increased participation in outdoor activities and sports in which patients are likely to sustain injury. Patients with thigh injuries, such as injury to the quadriceps and patellar tendon, may present to the urgent care center. Timely diagnosis is essential in preserving strength and function of the quadriceps complex.

TRACEY QUAIL DAVIDOFF, MD

Introduction

Patients who run and jump are at risk for injuring their quadriceps complex. These activities are common in the summertime. Although the majority of these injuries are simple strains, more severe injury to the quadriceps complex can occur, resulting in severe pain, loss of function, and permanent weakness of the thigh. The urgent care provider needs to be astute in diagnosing these injuries by taking a thorough medical history, focusing on the specific mechanisms of injury. This should be followed by a comprehensive musculoskeletal examination focusing on the injured extremity. Providers should keep in mind which patients will benefit from early referral to the hospital or orthopedic surgeon. Severe injuries may require surgical repair. Understanding the anatomic relationships and mechanisms of injury is key to determining the correct diagnosis and course of treatment.

Case Presentation

A 30-year-old man presented to the urgent care center

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after injuring his leg while playing kickball. The patient stated that he was nearing second base when he stopped briefly and then decided to turn and run to third base. Upon pivoting on his left leg with his foot planted, he felt a pop in his left knee, followed by severe pain in the

Figure 1. Knee x-rays are not necessary unless the diagnosis is uncertain. In this case, note the high-riding patella as seen on the lateral view.



thigh that made him collapse. He reported feeling as though his knee was dislocated. He was unable to straighten the knee fully, and continued to have severe pain. He had no previous injuries to the left knee and no other injuries from this incident.

The patient, a chef, had no significant past medical history except for dislocation of his other kneecap when he was a high school student. He reported that he takes no medication and does not smoke or take street drugs, and that he drinks alcohol socially.

Observations and Findings

On examination, the patient was clearly uncomfortable. He was sitting in a wheelchair, holding his left leg with both the hip and the knee flexed at about 45°. This position caused him the least pain. There was no redness or bruising of the thigh. There was an obvious knee effusion. The patella was proximally displaced. The patient had no bony tenderness at the knee, hip, femur, tibia, or fibula. In comparison with the uninjured right thigh, the left thigh had an obvious defect in the distal quadriceps. The proximal quadriceps had swelling and tenderness. Any attempts to get the patient to extend the hip or knee were met with resistance because of pain. Pulses and sensation in the left foot were normal. The patient was unable to weight bear because he was unable to straighten his left leg.

Radiographs of the patient's knee showed no fracture or dislocation but did show a high-riding patella (**Figure 1**).

Diagnosis and Disposition

The diagnosis was rupture of the quadriceps. The patient

was given ketorolac and fentanyl for pain, which provided some pain relief. He refused an ambulance because of its cost, so he was fitted with crutches and his leg was wrapped with an elastic bandage and knee immobilizer. His girlfriend drove him to a local emergency department for definitive care.

Discussion

Anatomy

The quadriceps are a group of 4 muscles in the anterior thigh: the rectus femoris, vastus lateralis, vastus medialis, and the vastus intermedius (**Figure 2**). These muscles function together to allow knee extension, hip flexion, pelvic stabilization, and control of deceleration and landing when a person is running and jumping. Strains and ruptures of the quadriceps complex are common in athletes in such sports as basketball, volleyball, soccer, and football.¹

Clinical Presentation

Strains of the quadriceps occur during movements involving sudden, forceful contractions, and they cause pain and dysfunction that may occur immediately or even several days after injury.² Depending upon the extent of injury, pain may be mild, moderate, or severe. Pain usually increases with passive or active flexion or extension of the knee. In severe cases, there may be significant swelling and ecchymosis. Anterior thigh pain will be present with weight bearing.

Quadriceps and patellar tears and complete ruptures are relatively uncommon.³ Rupture more commonly occurs distal to the patella than proximal to it. Rupture

“Strains of the quadriceps occur during movements involving sudden, forceful contractions, and they cause pain and dysfunction that may occur immediately or even several days after injury.”

occurs after a sudden, strong contraction of the quadriceps muscle, as when landing from a jump or making a sudden change in direction at high speed. There will be a severe, sharp pain at the knee that may be immediately disabling. This may also occur when a patient falls backward, bending at the knee with their feet in a fixed position. Quadriceps tendon ruptures are more common in patients older than 40 years, and patellar tendon ruptures are more common in patients younger than 40 years.

The patient will be obviously uncomfortable and will prefer to hold both the hip and knee in flexion. There may or may not be an obvious defect in the distal anterior thigh, with proximal swelling and bruising. In the injured leg, the patella may be proximally or distally displaced in comparison with the uninjured leg. Knee extension will be limited in partial tears, and impossible in complete tears. Patients with complete tears cannot initiate or maintain straight-leg-raising against gravity when supine.

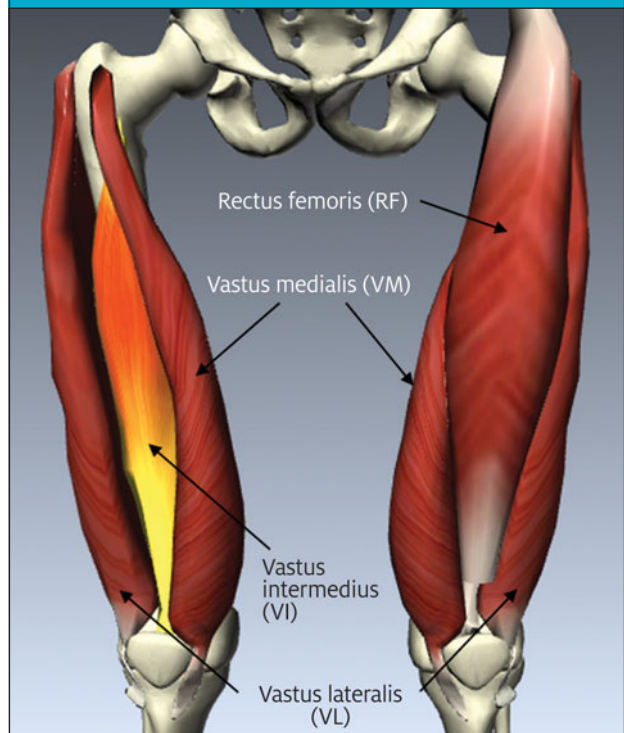
Imaging

Diagnostic imaging is not required in quadriceps injuries¹ because the diagnosis is usually readily made clinically. Radiographs may exclude patellar fracture or show displacement of the patella proximally or distally. Ultrasonographers experienced in musculoskeletal ultrasound may be able to quantify the degree of tear and confirm the diagnosis, but this is not required.

Treatment

Patients with complete tears and high-grade partial injuries should be referred for prompt surgical repair,⁴ usually within 7 to 10 days. Patients with injuries that are accompanied by massive bruising or hematoma formation are at risk for compartment syndrome and should be referred for immediate evaluation. Most partial tears are treated conservatively with ice, compressive dressings, pain medication, and gradual ambulation with crutches. Physical therapy should be provided after initial healing. Major complications are uncommon but can

Figure 2. The quadriceps muscles.



From Wang C-Z, Li T-J, Zheng Y-P. Anatomy of quadriceps femoris muscle group, which includes rectus femoris, vastus lateralis, vastus medialis and vastus intermedius. *PLOS ONE*. 2014;9:e101769. doi:10.1371/journal.pone.0101769.g001. Used under a Creative Commons Attribution 4.0 International license: <https://creativecommons.org/licenses/by/4.0/>.

occur and include myositis ossificans, compartment syndrome, and chronic weakness. Improper treatment may result in the inability to return to full athletic activities.

Take-Home Points

The quadriceps muscle group is subject to injury during activities involving jumping and running. The majority of injuries are strains that can be handled with rest, ice, compression, and crutches. More serious injuries require orthopedic surgical repair in a timely manner to prevent the long-term complications of weakness and the inability to return to full sports activities. ■

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Practice Management

Implications of Patients Recording Urgent Care Provider Encounters

Urgent message: The ubiquity of smartphones increases the risk that patients will openly or covertly record interactions with their physicians. Urgent care operators should understand the legal and privacy implications and protect themselves with appropriate policies and training.

ALAN A. AYERS, MBA, MAcc

Introduction

Smartphones with cameras and audio and video recorders that can be easily concealed in a pocket, purse, or backpack are now used by roughly 71% of Americans, including 86% of Generation Y (adults aged 25–34 years), according to the Nielsen Company.¹ As patients have become more social in sharing their health-care experiences and as health care has become more subject to litigation, the risk has grown that patients will use their smartphones to record a physician–patient interaction.

Recording an urgent care encounter, however, can undermine the trust relationship between a patient and provider while breaking various federal and state laws protecting conversations and potentially violating the privacy of other patients. Urgent care operators should thus be aware of the risk that patients will record some or all of their visits. To protect the urgent care center, managers should implement written policies, signage, and staff training to address this risk in a practical manner. An experienced health-care attorney or privacy consultant can assist in balancing compliance with the law

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and the practicalities of staff enforcement and patient compliance.

Patient Intentions: Not All Egregious

There are three common reasons why a patient might feel a need to record an interaction with a physician:

Table 1. Interview Dates for This Article

Expert	Interview Date
K. Royal	March 25, 2015
Heather Rosen	March 16, 2015
Alan Carpenter	March 17, 2015
Robert Barrese	March 18, 2015

Recording to Share Medical Experiences with Family and Friends

Patients may just want to share information about their injuries, illnesses, or medical experiences with family and friends. This may include photos and recorded excerpts of the visit, including their conversation with the physician. One risk of this is that the recording will end up on the Internet via social media for anyone to see, according to Robert Barrese, managing director of Urgent Care Assurance Company, based in Schaumburg, Illinois. (In the interests of full disclosure, **Table 1** lists dates for all interviews conducted for this article.)

"The patient is free to manipulate the intellectual property for his/her own agenda," adds Heather Rosen, MD, medical director of UPMC Urgent Care in Pittsburgh, Pennsylvania. "Many patients may not understand the message conveyed in the recording when trying to decipher it at home. They may enlist family members or friends to help interpret the recording, which can potentially further skew the intended message."

"I wouldn't be comfortable having my encounters recorded even with my knowledge, let alone in some stealthy secret-agent manner," says Alan Carpenter, DO, owner of Upper Valley Urgent Care Center in El Paso, Texas. "The federal HIPAA laws [Health Insurance Portability and Accountability Act] are explicitly written to tell those who provide health care that an individual's medical issues are private and to be respected. No patient would be comfortable with a physician secretly recording or videotaping an exam, and similarly the physician would not want this either."

Recording as a Memory Aid

Patients may have memory problems, have an emotional response to an office visit, or be incapacitated for some reason and thus a family member records the visit. Often, patients cannot remember the details of what the physician explains and may want a recording to capture the information for review. This scenario is more conducive to gaining the physician's consent, because it is in the patient's best interest to have the information, as

opposed to a setting where the patient may feel placed in an adversarial position. Additionally, patients may want a recording regarding treatment of their treatment in order to seek judgment against another party.

"Over my nearly thirty years of practicing medicine, I don't recall any attempts at recording encounters being motivated by good intentions like Grandma listening to the doctor again later," Carpenter adds. "Medicine is litigious, and recordings were usually motivated by some other reasons aimed at using the encounter against the physician in some manner."

Recording as Documentation When Trust Is Lacking

A patient might not have a trusting relationship with the physician and may intend to use the recording to initiate a medical board complaint, malpractice claim, or other litigation against either the provider or a third party.

"Any physician-patient relationship should be founded upon mutual trust and respect, which wouldn't ever require that a medical exam or visit be recorded," Carpenter says. "The idea on the part of a patient that he or she should record her encounter with a physician should be a red flag that he or she has lost trust with the physician and that it is time to arrange for care by someone else."

Trust may be absent when someone other than the patient is arranging and paying for the medical care and that other party may be at fault, such as after auto accidents, in workers' compensation cases, or even in employer-mandated physical examinations, according to K. Royal, RN, JD, a health-care privacy consultant based in Phoenix, Arizona. In these situations, the patient may feel that they are forced into seeing a physician with whom they have no relationship and that the interests and loyalty of the physician may not lie with the patient.

"Often, the extent of injuries or lack of addressing injuries is difficult to prove, resulting in a he-said-she-said situation," Royal says. "But when people are placed in situations wherein they lack the assurance that they can be free with their words, they start being very deliberate with their words. This deliberateness may or may not result in a change to patient care. There are delicate conversations we all have but would not want those words recorded, analyzed, and used against us. Hence, there are federal and state laws against eavesdropping."

Implications of Federal and State Laws

"There are no laws that directly address patients recording physician visits," says Royal. "There are, however,

“Trust may be absent when someone other than the patient is arranging and paying for the medical care and that other party may be at fault, such as after auto accidents, in workers’ compensation cases, or even in employer-mandated physical examinations.”

laws that govern electronic recording of conversations in every state, as well as on the federal level, which are intended to address wiretapping and eavesdropping but are worded to include recording of almost any conversation, by phone or in person.”

Royal explains that federal law and the laws of most states permit recording conversations as long as one party to the conversation consents. She also notes that 12 states require the consent of all parties to the conversation: California, Connecticut, Florida, Illinois, Maryland, Massachusetts, Michigan, Montana, Nevada, New Hampshire, Pennsylvania, and Washington.

Thus, there are two scenarios for consent to a recording: (1) only one party needs to consent or (2) all parties need to consent. Any recording gained illegally (without the required consent) is not permitted to be disclosed. It is generally not legal to record conversations in which you are not a party, other than permitted actions by law enforcement. Most laws provide for both criminal penalties and civil lawsuits for illegal recordings, as well as penalties for disclosing the contents of an illegal recording.

In the 12 states that require all-party consent, it is illegal to record a conversation unless all parties to the conversation have consented to the recording. Every law has exceptions and limits. For example, California Penal Code 632 PC criminalizes eavesdropping if it is intentional, not all parties have consented, the conversation is confidential, and electronics are used to amplify or record the conversation. All 4 elements must be in place.² Thus, for example, if a conversation happens in a location that is not confidential, it is not illegal to record it.

For example, an employer sends a representative with the patient when there is an injury on the job, and the representative asks to be in the room as well as to record the visit. In an all-party-consent state, both the patient and the physician can object to this. In a one-party-consent state, both the patient and the physician can object because the employer’s representative is not a party to the conversation. There may be a conversation in which they are a party, but not likely during the patient’s examination and treatment.

Risks to Urgent Care Providers

Barrese says that his malpractice insurance company has not yet encountered a situation in which a patient records a conversation,

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Table 2. Considerations for Protecting the Urgent Care Center Against Unauthorized Patient Recordings

- Centers should have a no-audio-recording and no-video-recording policy that is based on the privacy risk that recording presents for other patients.
- Centers should consider posting signs prohibiting recording in each examination room and make acknowledging the policy part of the intake paperwork, ensuring that patients understand that no recording is permitted in the center.
- Centers should train staff members, physicians, and other health-care providers on the policy and engage in a variety of role-playing activities to demonstrate how to handle real-life discoveries of patients making recordings.

for the purpose of litigation, in an urgent care setting during a voluntary office visit. He admits, however that with smaller, more easily concealed technology, this is certainly a risk.

“That risk must be considered in the ‘totality of circumstances’ including the privacy of other patients,” Royal adds. There are numerous provisions addressing confidentiality in health care, such as physician regulations, state laws, and federal laws. “Any recording that interferes with another person’s privacy can absolutely be prohibited,” she says. Thus when considering the California requirement that the parties expect a conversation to be confidential, it can be assumed that individuals expect privacy in a medical environment.

Patient privacy expectations flow throughout the urgent care center, from the waiting room to intake, examination rooms, hallways, and checkout; patients and patient information are everywhere. Someone with a smartphone can take pictures or video of themselves, other patients, and medical records of other patients surreptitiously, creating a huge potential for a privacy breach (Table 2).

Is a “No Cell Phones” Policy the Answer?

Some urgent care centers, including Carpenter’s, have adopted a “no cell phones” policy. Carpenter has patients sign an agreement³ at registration that their phones will be completely shut off for the duration of their visit. Not only does prohibiting cell phone use protect patient privacy and the confidentiality of physician–patient interactions but Carpenter says that it also improves the flow and efficiency of the medical office.

The reality for most urgent care operators, however, is that it is really difficult to control patient use of cell phones. Patients pass their waiting time by surfing the

Internet, texting, or streaming videos or music, and they also call other people to discuss their experience at the urgent care center and their medical issue. According to Royal, these are legitimate uses that can absolutely be prohibited by a center’s policies, but enforcement would likely create an unfriendly environment, resulting in negative patient perceptions.

Even if a center does not go as far as having patients sign a policy statement banning cell phone use, it can still post signs saying that no recordings are allowed, including audio and visual—or even more narrowly, no recordings of any other people. A sign should be posted at the front desk alerting individuals to this policy. This is a clear policy statement that can be enforced and is narrowly tailored to suit the needs of the medical office.

The written policy to support the sign posting should address the point that the company has taken a position of denying all requests for recording. Physicians and employees should not be permitted to waive this refusal. As Carpenter states, “Certainly, if the patient discussed the issue ahead of time and was fully disclosing the reason for needing a recording, *and* if the physician was comfortable with the request, then it might be done on a case-by-case basis, but most attorneys would probably advise against this.”

Royal adds: “If there is a bona fide need—perhaps a deaf patient has an interpreter and the patient wishes to have a recording to verify with family—then there should be a process to escalate a request to the proper person in management. In such a case, the office could determine if they only grant recording requests if the office also receives a copy—and then how to operationalize that requirement. If the policy is to permit recordings under certain circumstances, have those circumstances detailed in the policy with the proper instructions. Ensure that all staff members are trained on this.”

Patient Caught Red-Handed

“Under the law in the state I’m practicing, any recording of an individual by another without his or her knowledge is a crime,” Rosen says. “If I discovered a patient recording, I would immediately stop the interview and advise the patient I would not proceed until the recording had ceased. I would inform the patient that I would be willing to continue once the recording device was put away. Furthermore, I would ask that the patient delete what he or she recorded.”

Asking patients if they are recording at the start of a visit is not a way to build trust. However, staff members,

when assessing vital signs and showing the patient to the examination room, could include a reminder that portable device and phone recordings (video or audio) are not permitted. This matter-of-fact reminder might deter some surreptitious recording, but those who are recording for malicious purposes will likely ignore any instructions.

Regardless of the reason a patient is recording a visit, unless staff members know that the patient has a malicious intent, the patient should be treated with respect and courtesy. Inform the patient of the center's policies and politely ask that the patient cease recording. Train providers and staff members on the center's policies for recording, and provide instruction on how to address the issue with patients, emphasizing that a prohibition on recording is to protect patients' privacy. In most cases, patients will comply with such a request.

Royal points out that although a medical practice can prohibit recording on behalf of the business, only individuals can consent to having their conversations recorded. When a patient has requested permission to record an interaction, the provider and the center's managers should discuss the details and implications of the request with the parties to be recorded. If permission is granted, then all staff members should be informed and have the opportunity to consent for themselves. A provider should not speak for staff members or any other individual who should have the opportunity to determine their own wishes.

Royal emphasizes that a center's stance on an individual request would depend on the scenario. If the patient is recording because they have an injury they wish to share via social media, then staff members and providers could permit that recording without permitting recording of the direct treatment and discussions. On the other hand, if the patient is required to see this physician because someone else is responsible for the bill or a second opinion is required, then the circumstances require application of a different logic. The latter scenarios are more contentious and likely to elicit a defensive position by both providers and staff members.

If a physician feels that the quality of care they provide for a patient is compromised because they are recorded, that is cause for concern. If treatment quality suffers because the physician feels like they are under suspicion

“Regardless of the reason a patient is recording a visit, unless staff members know that the patient has a malicious intent, the patient should be treated with respect and courtesy.”

and cannot establish a proper relationship with the patient, then that is a separate conversation to have with the patient.

All of that aside, how a physician reacts relates directly to whether they suspect that the patient is trying catch them doing something

less than what is best for the patient. If the physician is likely to make statements that should not be recorded, perhaps those things should not be said. If there are tests that would not be ordered unless the physician felt under pressure by being recorded, then perhaps the tests should remain unordered. Being recorded or not should have no impact on a physician's treatment of the patient to the best of their ability.

Conclusion

The recording of patient-physician interactions is both a simple and a complex topic. The United States is particularly litigious: Patients sue physicians, and individuals sue one another over injuries. Our environment is also technologically sophisticated. Pair contentious situations with technical capability, and we will see more recording.

Physicians and patients should feel like they are in a trusting relationship. It is difficult to establish such a relationship when one party feels like the other intends to cast aspersions on one's character or skills and catch them doing wrong. When the patient doubts where the physician's loyalty lies, then there is no trust.

Physicians can perhaps allay these fears with frank conversations with patients, identifying reasons behind recording and basing their response on the underlying cause rather than focusing on the recording. However, looking at this issue through the lens of urgent care, there is not generally an opportunity or need to build a lasting relationship of trust. Yes, there should be basic trust, but extended trust is neither expected nor required if there is no long-term treatment relationship. ■

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Bouncebacks

A 34-Year-Old Man with Left Side Pain

In *Bouncebacks*, which appears periodically in *JUCM*, we provide the documentation of an actual patient encounter, discuss patient safety and risk-management principles, and then reveal the patient's bounceback diagnosis.

This month's case reflects the actual documentation from an urgent care visit, and the patient's bounceback the next day to the emergency department. Can you spot the red flags without knowing the outcome?

MICHAEL B. WEINSTOCK, MD, and MIZUHO SPANGLER, DO

Introduction

A picture tells a thousand stories, but from the story that follows, it is hard to conjure a picture. We are sure it was pretty straightforward at the bedside; the patient has "left side pain." But an outside observer looking back at the chart wonders, "Hmmm . . . left side of *what*?"

Deep Thoughts

1. Do certain complaints require a more extensive urgent care history and examination?
2. What is the heuristic "premature closure"?
3. What red flag often warns of a possible misdiagnosis?

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4. What is the role for a "medical decision-making" note in the urgent care chart?

Note: The record that follows is the *exact* documentation recorded by the urgent care provider, except that

Vital Signs						
Time	Temperature	Pulse	Respiratory Rate	Systolic Blood Pressure	Diastolic Blood Pressure	Oxygen Saturation (Room Air)
19:32	98.4°F	96 beats/min	13 breaths/min	134 mm Hg	79 mm Hg	96%

the dates of the visit and the names of health-care providers and family members have been changed.

Urgent Care Visit

Chief complaint: Left side pain

Date: April 19

History of Present Illness

Presents with chief complaint of left side pain which started last night and has got worse as the day has progressed. Constant pain. Pain is deep. Denies injury. Worse with deep breath. No fever, cough, abd. [abdominal] pain, flank pain, change in urination, n/v [nausea/vomiting], rash, weakness, increased tiredness.

Past Medical History

Allergies: Penicillin

Meds: None

PMH/PSH [past medical history/past surgical history]: Negative

SH [social history]: No smoking, occ. [occasional] alcohol

Physical Examination

Constitutional: Well developed, well nourished. No distress.

Lungs: Decreased breath sounds LLL [left lower lobe], no rhonchi

Chest: There is no tenderness of the chest wall

Card [cardiology]: Regular rate and rhythm, nl [normal]. S1 S2, no murmur

Emergency Department Course

CXR [chest x-ray]: (interpretation per urgent care physician): Small infiltrate LLL

Diagnosis: Pneumonia

Disposition: Azithromycin. Albuterol inhaler. Follow up with ER [emergency room] if pain worsens overnight. Primary care in 2–3 days if not better.

The Errors: Risk-Management and Patient-Safety Issues

(Authors' note: This is a pretty slim chart. Often that is not a problem, as in, for example, "inversion injury while playing

basketball yesterday." We get the picture. But the chart in this case is not for an ankle strain; it is chest pain (or abdominal pain—we aren't sure). The most important part of the record is that an objective reader can hear the story, a story that flows from beginning to end and provides a plausible explanation for the diagnosis. This is a recurrent theme in failure-to-diagnose urgent care cases. Playing the odds only gets you so far. Is anyone satisfied with being right 99% of the time? Of the 150,000 to 200,000 patients we will each see during the course of our careers, 99% equals . . . what? About 1500 to 2000 misdiagnoses.)

Error #1: Inadequate history.

Discussion: Every patient needs a history, some more than others. This patient had side pain—the *side* of his *chest*. In other words, we have a 34-year-old-man with chest pain. Now the required elements of the history become more important:

- Is the pain exertional? Consider acute coronary syndrome (ACS) or myocardial infarction (MI).
- Are there associated symptoms of dyspnea or diaphoresis? Consider ACS, pulmonary embolism (PE), and pneumonia.
- Is there radiation to the back? Consider aortic dissection.
- Are there infectious symptoms of cough or fever? Consider pneumonia.
- Is there a rash? Consider herpes zoster.

Teaching point: It is hard to make a correct diagnosis without adequate data.

Error #2: Inadequate physical examination

Discussion: A 34-year-old man with chest pain leaves a lot open in our differential. Of the 6 life-threatening causes of chest pain listed below, the last 3 can fairly reliably be excluded with simply a good physical examination. A lack of asymmetric breath sounds, tachycardia, tachypnea, jugular venous distention (JVD), and tracheal deviation makes both tension pneumothorax and pericardial tamponade extremely unlikely. Historically speaking, pain that did not start in relation to vomiting essentially excludes Boerhaave syndrome.

These are the 6 life-threatening causes of chest pain:

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BOUNCEBACKS

“The most important part of the record is that an objective reader can hear the story, a story that flows from beginning to end and provides a plausible explanation for the diagnosis. This is a recurrent theme in failure-to-diagnose urgent care cases.”

- ACS
- PE
- Aortic dissection
- Tension pneumothorax
- Pericardial tamponade
- Boerhaave syndrome

Additional elements of the physical examination that might have been helpful include the following:

1. Unilateral swelling of the extremities (deep vein thrombosis [DVT] or PE)
2. Peripheral pulses (aortic dissection)
3. Neck examination (JVD with pericardial tamponade, tracheal deviation in tension pneumothorax)
4. Visual inspection of chest wall (herpes zoster rash makes a diagnosis; abrasion or contusion makes the diagnosis for musculoskeletal pain)
5. Back examination (costovertebral angle tenderness may be from pyelonephritis or ureterolithiasis)

Teaching point: A thorough medical history will make the diagnosis 73% to 92% of the time,^{1,2} but *sometimes* examination findings are helpful.

Error #3: Premature closure.

Discussion: In the 2002, Pat Croskerry, a Canadian emergency physician, described “premature closure” as the acceptance of a diagnosis before it has been fully verified.³ This may occur because of another bias commonly practiced: anchoring bias—in other words, “anchoring” onto vivid presenting features, often early in the course of the evaluation. In this case the physician was without a diagnosis; no respiratory symptoms, no history of injury, no pain with palpation, no rash. When the chest x-ray showed what was thought to be an infiltrate, the diagnosis of pneumonia was anchored onto, and the evaluation was prematurely closed without further exploration of the cause. When an infiltrate is seen on the chest x-ray, further history should be obtained as support for this diagnosis: cough, shortness of breath, fever, rhinorrhea, exposure to others who have been ill. When the patient bounced back, the diagnosis was made at the bedside on the basis of a more thorough history. It was then confirmed with further testing.

Teaching point: A finding not consistent with the medical history does not make a diagnosis.

Error #4: Diagnostic uncertainty.

Discussion: Remember deep thought #3 earlier? This patient had a huge red flag waving, one that would be seen by most physicians as well as the physician's neighbor: How do you have pneumonia in a healthy young man who has no cough or fever? If you were this patient and someone prescribed a Zithromax Z-pak for you, would you even bother to fill the prescription? Here is some foreshadowing—the patient did not.

Teaching point: When the diagnosis does not match the findings on the medical history and physical examination, both need further exploration.

Error #5: Not getting an electrocardiogram (ECG).

Discussion: Should an ECG have been obtained? If further history confirmed exertional symptoms, associated diaphoresis and dyspnea, or serious risk factors, it could have been considered. Though normal ECG findings do not exclude ACS or MI, positive findings will enable rapid and accurate diagnosis, facilitating prompt care.

Teaching point: An ECG is a simple, inexpensive test that can help exclude heart disease.

Error #6: Failure to consider a more serious diagnosis.

Discussion: We mentioned the differential for chest pain earlier, but we still have not excluded what would be our first thought. Though there are some criticisms of the medical history obtained, the truth is that the sentinel aspect of the history actually *was* obtained. The pain was “worse with deep breath.” Ever heard of a “zebra retreat”? The term refers to considering an unusual diagnosis and then excluding it because it is rare.³ Did this provider consider PE? And why would a 34-year-old man have a PE anyway? Is there some supporting history obtained on the bounceback visit that could have clinched the deal for the urgent care provider had it been obtained? Read on.

Teaching point: Our urgent care mantra is “Think worse first.”

The Bounceback

The next day, the patient presented to the emergency department at 5:27 a.m. (10 hours after presentation to the urgent care center). The chief complaint was difficulty breathing. He had not filled his prescription.

- **HPI [history of present illness]:** “Two days of left sided chest pain which is constant and dull and intermittently sharp when he takes a breath. No rhinorrhea or coughing. No fevers. No radiation. No exertional component. He did strain his left calf while playing basketball one and a half weeks ago. No prolonged immobilization casts or splint to the lower extremities or lower extremity swelling. No history of cancer, hemoptysis, recent surgery, blood clotting problems or hormone therapy.
- **PE:** Normal, no calf muscle pain
- **Testing:**
 - ECG: Normal sinus rhythm (NSR) and otherwise normal
 - Venous Doppler: Acute DVT left LE [lower extremity]
 - CTA [computed tomography angiography]: Acute PE right lower lobe, atelectasis
- **Diagnosis:** Acute pulmonary embolus, left LE DVT
- **Treatment:** Lovenox and Coumadin, hospital admission

Note: Repeat vitals just prior to patient going to floor show pulse 80 and O₂ sat 96%

Discussion

Well, this was a tough diagnosis . . . or was it? We can look at the initial presentation from two perspectives:

1. A young, healthy patient with normal pulse and respiratory rate has “side pain” and an infiltrate in this exact location. The patient is prescribed an antibiotic recommended by the current guidelines of the American Thoracic Society—open-and-shut case. *Or . . .*
2. A young patient healthy enough to strain his calf playing basketball presents with pleuritic chest pain and no respiratory symptoms. How does that pneumonia diagnosis seem now?

The first step in excluding serious life-threatening diseases is to consider them. Though ACS can present with back

Vital Signs						
Time	Temperature	Pulse	Respiratory Rate	Systolic Blood Pressure	Diastolic Blood Pressure	Oxygen Saturation (Room Air)
05:27	Afebrile	99 beats/min	20 breaths/min	113 mm Hg	79 mm Hg	95%

pain, arm pain, epigastric pain, or, in select populations of the elderly and patients with diabetes, simply as diaphoresis, nausea, or dizziness, this diagnosis must at least be considered in all patients who present with chest pain. As previously described, the differential can be divided into 6 life-threatening causes of chest pain:

- The big 3:
 - ACS or acute MI
 - PE
 - Aortic dissection
- The next 3:
 - Tension pneumothorax
 - Pericarditis or pericardial tamponade
 - Esophageal rupture (Boerhaave syndrome)

Whereas the second 3 can be reliably excluded with a careful medical history and physical examination, the first 3 must be further explored on the basis of pretest probability or risk stratification. But risks of ACS, PE, or dissection may be different than those we typically consider. The Framingham risk factors (age, sex, hypertension, diabetes mellitus, etc.) were developed as a tool to stratify patients by risk of an adverse event later in life, not as a gauge of whether patients with acute symptoms will have a serious diagnosis. The American Heart Association specifically states in their newest set of recommendations⁴ that the patient's presenting symptoms trump a lack of Framingham risk factors. In other words, a patient with no risk factors who has exertional chest pain, dyspnea, and diaphoresis must undergo a workup to exclude ACS.

Risk factors may help in other ways; encountering patients at risk of atypical presentations of ACS, such as those with diabetes mellitus, the elderly, women, cocaine users, and patients with acquired immunodeficiency syndrome, may induce us to obtain a more thorough medical history. Another prompt discussed previously should be a major risk factor not only with evaluation of chest pain but with all symptoms: lack of an alternative diagnosis. Jeffrey Klein, professor of emergency medicine at Indiana University School of Medicine and fellow of the North Carolina College of Emergency Physicians and one of the world's authorities on PE, makes things very simple: When do you look for PE? When patients have unexplained breathlessness.

In patients for whom there is a low clinical suspicion for PE (i.e., low clinical gestalt—there is <15% chance that the patient will have a PE), studies have shown that the PE

“When the diagnosis does not match the findings on the medical history and physical examination, both need further exploration.”

rule-out criteria (PERC) can be a useful tool in decision-making.⁵ The nice part is that you can apply it at the bedside and, if findings are negative, obviate need for any further testing. Correct application of

the PERC reduces the probability of PE to <2% in patients at low risk of PE. Here are the criteria:

1. Age <50 years
2. Pulse <100 beats/min
3. Oxygen saturation >95%
4. No unilateral leg swelling
5. No hemoptysis
6. No recent trauma or surgery
7. No prior PE or DVT
8. No hormone use

Thus in patients for whom you have low clinical suspicion and who meet all 8 criteria, the likelihood of PE is low enough that no further testing or imaging is indicated. **Note:** Findings for the PERC can only be negative. In other words, if findings for just one of the criteria are positive, that does *not* mean that further testing (D-dimer or CTA) is required.

Conclusion

What can we learn from this case?

- The history is key: Only by evaluating for leg or Achilles tendon injury was the index of suspicion for PE increased to the point that a test was ordered.
- All that wheezes is not asthma, and all that coughs is not pneumonia.
- Use of the PERC at the urgent care bedside can decrease the possibility of PE to a low enough level that no further testing is required.
- When considering the possibility of PE, think “unexplained breathlessness.” ■

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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.

Figure 1.



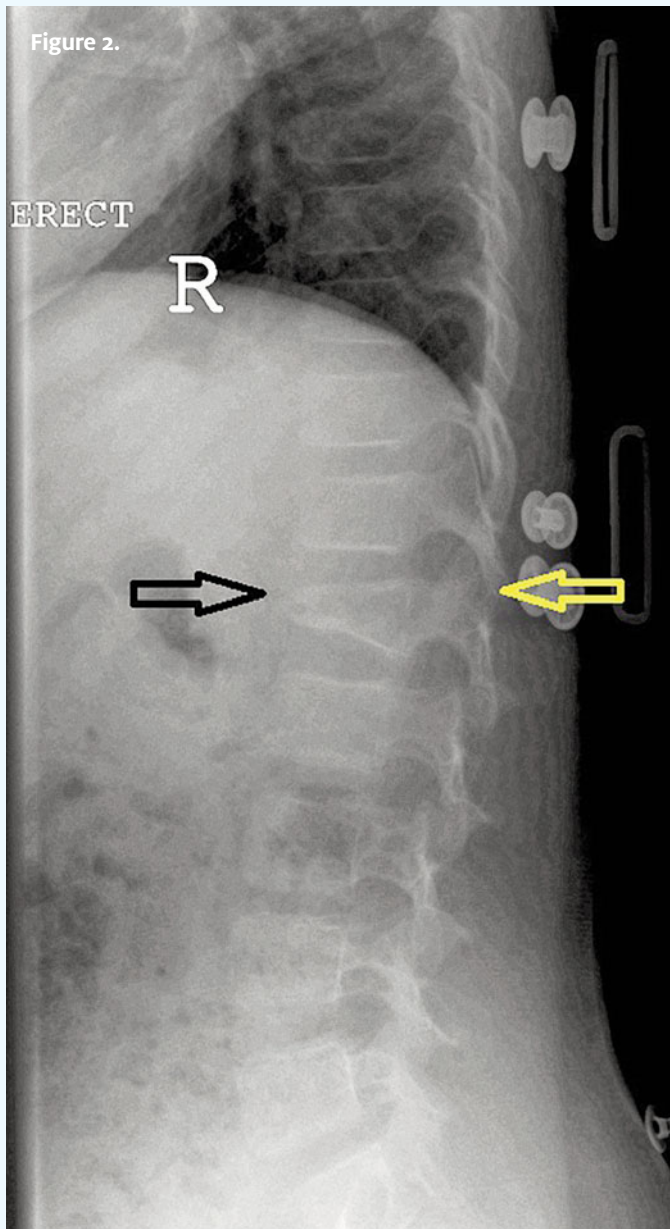
The patient was a rear-seat passenger in a head-on vehicle collision, wearing only a lap seat belt as a safety restraint.

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

Resolution of the case is described on the next page.

THE RESOLUTION

Figure 2.



Diagnosis: Chance fracture. Chance fractures are typically of the lower thoracic spine, with compression of the anterior vertebral body (*black arrow, Figure 2*) and transverse fracture of the posterior vertebral elements.

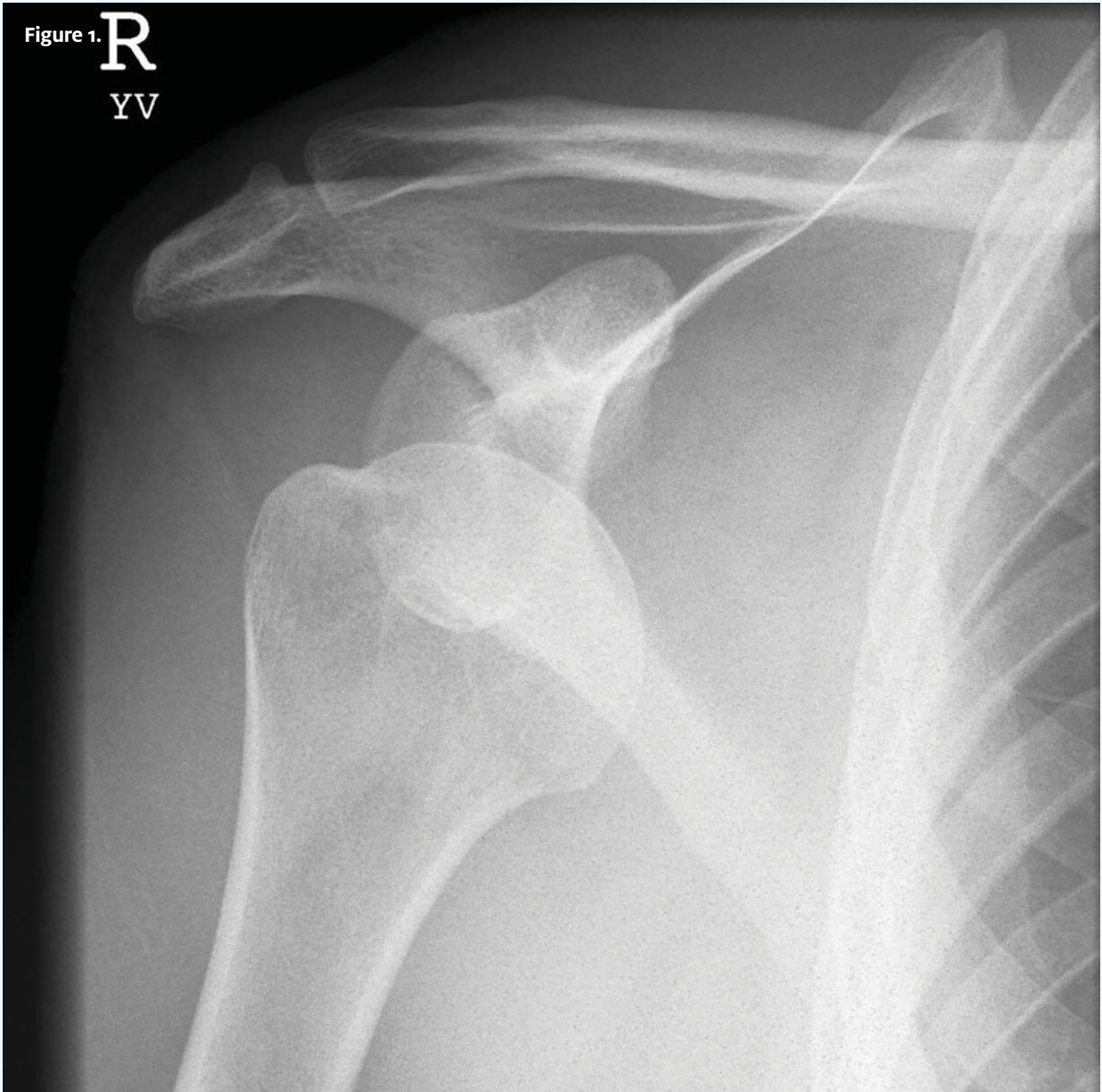
It is caused by a forceful flexion injury and is most commonly associated with old-style lap seat belts in automobiles. Newer seat belts with shoulder restraints have made Chance fractures far less common. Serious intra-abdominal injuries are frequently associated such fractures.

Immobilize the patient, begin intravenous fluid resuscitation, and transfer the patient to a local emergency department.

Images are courtesy of Core Content in Urgent Care Medicine/Teleradiology Specialists Image Database.



Figure 1. **R**
YV



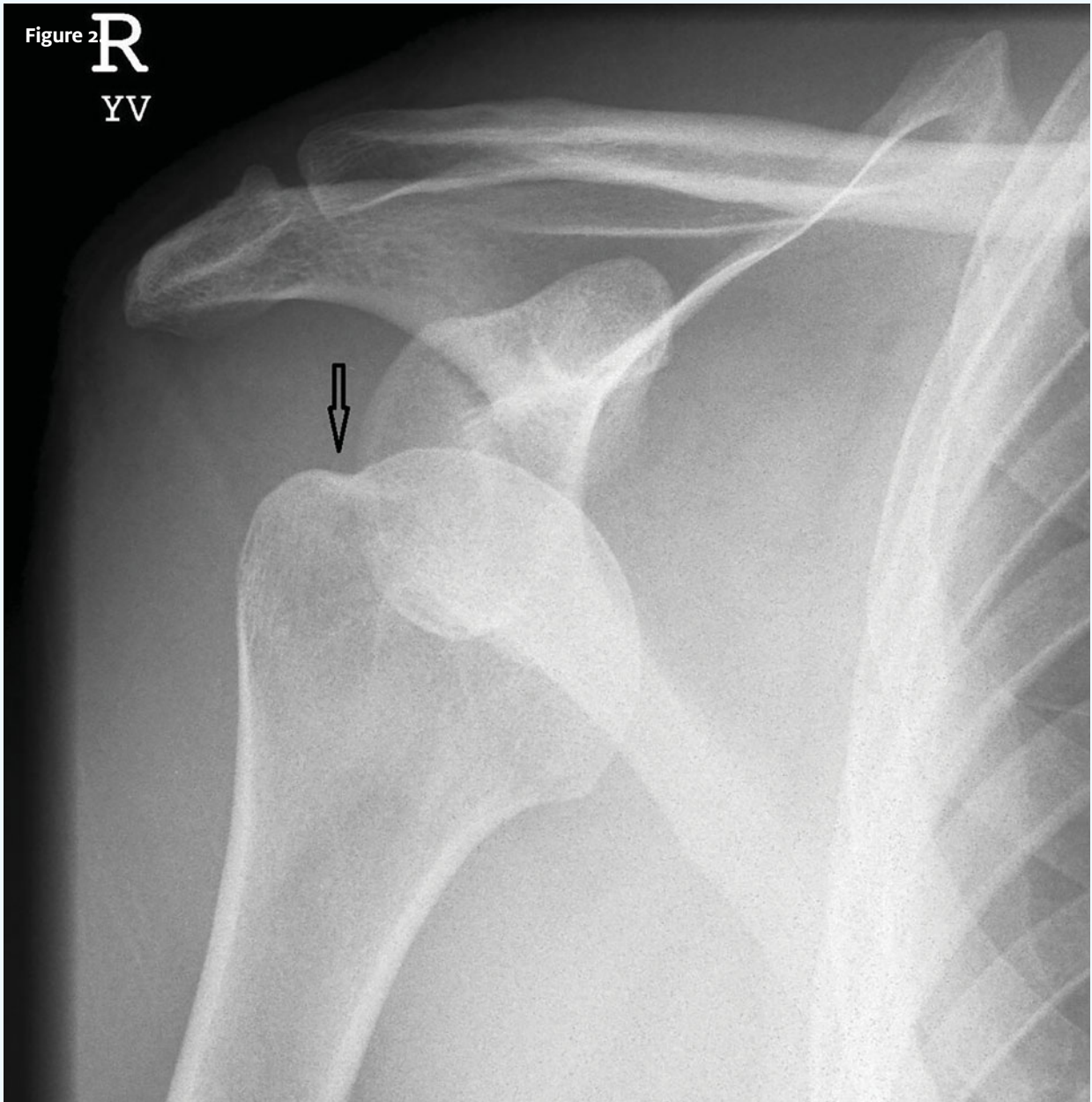
A patient presents after a backward fall off a ladder.

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

Resolution of the case is described on the next page.

THE RESOLUTION

Figure 2
R
YV



Diagnosis: Anterior shoulder dislocation—Hill-Sachs lesion. A Hill-Sachs lesion occurs when the humeral head impacts the glenoid rim when the shoulder is dislocated anteriorly. This appears on x-rays as a cortical depression of the posterolateral head of the humerus (arrow, **Figure 2**).

This patient requires sedation, reduction, and orthopedic referral. Most Hill-Sachs lesions are handled conservatively unless there is recurrent instability.

Images are courtesy of Core Content in Urgent Care Medicine/Teleradiology Specialists Image Database.



ABSTRACTS IN URGENT CARE

- Sumatriptan Less Effective in Migraine with Aura
- Medication-Induced Ketoacidosis in Type 2 Diabetes
- MRSA Colonization Lasts Longer Than Thought After Treatment
- Trimethoprim-Sulfamethoxazole Versus Vancomycin for Severe MRSA
- Silver Sulfadiazine Slows Healing of Burn Wounds
- Insole Options in Plantar Fasciitis

■ SEAN M. MCNEELEY, MD

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

Sumatriptan Less Effective in Migraine with Aura

Key point: Migraine with aura might require additional treatment measures.

Citation: Hansen JM, Goadsby PJ, Charles A. Reduced efficacy of sumatriptan in migraine with aura vs without aura. *Neurology*. 2015;84:1880–1885.

This study used pooled data to compare the response of patients with migraines with aura and the response of those with migraines without aura. A total of 3714 patients were compared; 1199 had an aura. Two hours after taking sumatriptan, 32% of the patients without aura were pain free, compared with 24% of those with aura. The authors also looked at treatment with inhaled dihydroergotamine (DHE), which produced less of a gap between groups regarding the percentage of pain-free patients (29% vs 27%). These numbers seem low overall, which might be related to defining the cutoff point for assessing pain as 2 hours. However, urgent care providers should remain aware that it may be necessary to consider additional measures, such as administering a ketorolac injection, for patients with migraine. ■



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

Medication-Induced Ketoacidosis in Type 2 Diabetes

Key point: Watch out for ketoacidosis in patients with type 2 diabetes who take SGLT2 inhibitors.

Citation: SGLT2 inhibitors: Drug safety communication—FDA warns medicines may result in a serious condition of too much acid in the blood. Silver Spring, MD: U.S. Food and Drug Administration [updated 2015 May 15; cited 2015 June 6]. Available from: <http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm46994.htm>

Generally *JUCM*'s abstracts section focuses on new research. However, this alert from the U.S. Food and Drug Administration is reported here because it concerns an important risk from new but already commonly used diabetes drugs. Ketoacidosis is generally a worry for patients with type 1 diabetes, but now it appears that sodium-glucose cotransporter-2 (SGLT2) inhibitors such as canagliflozin, dapagliflozin, and empagliflozin increase the risk of ketoacidosis in patients with type 2 disease. These medications lower glucose levels by causing the kidneys to absorb less glucose, but this allows glucose to spill into the urine. Urgent care providers should thus evaluate for ketoacidosis all patients who take these medications and present with nausea, emesis, and/or abdominal pain. ■

MRSA Colonization Lasts Longer Than Thought After Treatment

Key point: Patients remain colonized with methicillin-resistant *Staphylococcus aureus* for a significant period even after treatment.

Citation: Cluzet VC, Gerber JS, Nachamkin I, et al. Duration of colonization and determinants of earlier clearance of colonization with methicillin-resistant *Staphylococcus aureus*. *Clin Infect Dis*. 2015;60:1489–1496.

With the recent increase of infections with methicillin-resistant *Staphylococcus aureus* (MRSA), colonization with *S. aureus* has become a large concern because of the possibility of reinfection and of passing the infection to family members. This study attempted to characterize colonization duration and treatment. A total of 243 patients with MRSA skin and soft-tissue infections were reexamined every 2 weeks for 6 months after treatment. Samples were taken from the nares, axilla, and groin for both patients and household members. The most commonly prescribed antibiotics were trimethoprim-sulfamethoxazole and clindamycin. The median duration of colonization was 21 days, although almost 20% of participants were still colonized at 6 months. Clindamycin did improve clearance compared with other antibiotics. Although this was a small study, its findings point to the need for urgent care providers to consider prescribing clindamycin in appropriate cases and discussing colonization duration with patients. ■

Trimethoprim-Sulfamethoxazole Versus Vancomycin for Severe MRSA

Key point: Trimethoprim-sulfamethoxazole may not be the best treatment for severe MRSA.

Citation: Paul M et al. Trimethoprim-sulfamethoxazole versus vancomycin for severe infections caused by methicillin resistant *Staphylococcus aureus*: randomised control trial. *BMJ*. 2015;350:h2219. doi:10.1136/bmj.h2219.

Treatment of methicillin-resistant *Staphylococcus aureus* (MRSA) infections continues to change as antibiotic resistance grows and thus infection incidence increases. Because of concerns about potential resistance to vancomycin and the potential use of high-dose trimethoprim-sulfamethoxazole as a convenient alternative, the researchers conducted a randomized non-inferiority trial. A total of 252 patients with severe MRSA infections, including bacteremia, were randomized to receive either high-dose trimethoprim-sulfamethoxazole twice daily or vancomycin. Treatment continued for at least 7 days. Unfortunately, there were more treatment failures (odds ratio, 2.0) for trimethoprim-sulfamethoxazole than for vancomycin. Severe MRSA is not commonly encountered in the urgent care setting. However, from time to time patients with potential early bacteremia from a MRSA infection (low-grade fever, tachycardia, etc.) may present, and thus urgent care clinicians may want to reconsider administering a single dose of vancomycin to these patients and discharging them with a prescription for trimethoprim-sulfamethoxazole. Also, in view of the findings

of this study, further consideration of antibiotic choice, return-visit interval, or even treatment location may be warranted. ■

Silver Sulfadiazine Slows Healing of Burn Wounds

Key point: There is additional evidence that silver sulfadiazine may not be the best choice for burns.

Citation: Rosen J, Landriscina A, Kutner A, et al. Silver sulfadiazine retards wound healing in mice via alterations in cytokine expression. *J Invest Dermatol*. 2015;135:1459–1462.

Many past articles have questioned the use of silver sulfadiazine in burn care. Although the drug was once the treatment of choice, concerns about slower wound healing have made it a second choice for many clinicians. In this study, treatment with silver sulfadiazine 1% was compared with no treatment for mice with induced third-degree (complete-thickness) burns. Untreated wounds healed faster and showed greater collagen deposition. Although this study was not of humans, its findings are consistent with other studies of the same type. Although a deep understanding of wound science may not be applicable to burn treatment in the urgent care setting, this report is a good reminder to consider options other than silver sulfadiazine 1%. It is also one more piece of information to help convince patients who expect the old therapy. ■

Insole Options in Plantar Fasciitis

Key point: Both flat and total contact insoles seem effective in the treatment of plantar fasciitis.

Citation: Oliveira HA, Jones A, Moreira E, et al. Effectiveness of total contact insoles in patients with plantar fasciitis. *J Rheumatol*. 2015;42:870–878.

Although plantar fasciitis is a common condition, its treatment still produces frustrating results. In this double-blind, randomized, controlled trial, the benefits of total contact insoles were evaluated for patients with the disorder. The total contact insoles were created with the patient lying on the abdomen and with the knee bent at 90°, to take advantage of gravity for a better fit to the foot shape. In comparison with the control group (37 participants), the group with total contact insoles (37 participants) experienced decreased pain while walking. However, both groups showed decreased pain at rest, decreased foot pain, improved foot function, and improved general foot health, with differences between groups being statistically insignificant. Thus, total contact insoles and flat insoles both produced improvement, making either type a reasonable choice. In the urgent care setting, this might mean that using the less-expensive version can be discussed with patients because in most cases, plantar fasciitis will resolve on its own within about 18 months. ■



Fractures in ICD-10-CM

■ DAVID STERN, MD, CPC

Q. We treat a lot of fractures in our urgent care clinic, and I understand there are changes for coding these in ICD-10-CM [International Classification of Diseases, 10th Revision, Clinical Modification]. What will we need to be aware of?

A. Most of the changes made in ICD-10-CM were to chapter 19, "Injury, Poisoning, and Certain Other Consequences of External Causes (S00-T88)," because of the need to identify laterality and 7th-character extensions that indicate the type of encounter for the injury. Code descriptions include right and left designation, as well as bilateral designation when appropriate. There is also a designation for "unspecified," but best practice would be to query the health-care provider for further documentation if laterality is not mentioned in the notes.

Most categories in chapter 19 have a 7th-character requirement for each applicable code. The majority of fracture codes will have encounter types:

- **A:** Initial encounter
- **D:** Subsequent encounter
- **G:** Subsequent encounter for closed fracture with delayed healing
- **K:** Subsequent encounter for closed fracture with nonunion
- **P:** Subsequent encounter for closed fracture with malunion
- **S:** Sequela

These are other choices for fracture encounters that you will find throughout the chapter:

- **B:** Initial encounter for open fracture type I or II
- **C:** Initial encounter for open fracture type IIIA, IIIB, or IIIC
- **E:** Subsequent encounter for open fracture type I or II with routine healing
- **F:** Subsequent encounter for open fracture type IIIA,

IIIB, or IIIC with routine healing

- **H:** Subsequent encounter for open fracture type I or II with delayed healing
- **J:** Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with delayed healing
- **M:** Subsequent encounter for open fracture type I or II with nonunion
- **N:** Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with nonunion
- **Q:** Subsequent encounter for open fracture type I or II with malunion
- **R:** Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with malunion

According to the guidelines, 7th character A (initial encounter) is used while the patient is receiving active treatment for the condition. Examples of active treatment in ICD-10-CM are the same as currently listed in ICD-9-CM (*International Classification of Diseases, Ninth Revision, Clinical Modification*): surgical treatment, emergency department encounter, and evaluation and treatment by a new physician.

True to their description, these 7th-character extensions must be located in the 7th position within the code. Therefore, there will be times that you will need to use an X placeholder in the 5th and/or 6th positions in order for the encounter type to appear in the 7th position. For example, the code selection for the fracture of a medial malleolus is only 5 digits:

- **S82.51:** Displaced fracture of medial malleolus of right tibia
- **S82.52:** Displaced fracture of medial malleolus of left tibia
- **S82.53:** Displaced fracture of medial malleolus of unspecified tibia
- **S82.54:** Nondisplaced fracture of medial malleolus of right tibia
- **S82.55:** Nondisplaced fracture of medial malleolus of left tibia
- **S82.56:** Nondisplaced fracture of medial malleolus of unspecified tibia

To bill a complete code, you must insert an X placeholder as the 6th digit so that the encounter can be placed in the 7th



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CODING Q & A

"Most of the changes made in ICD-10-CM were to chapter 19, 'Injury, Poisoning, and Certain Other Consequences of External Causes (Soo-T88),' because of the need to identify laterality and 7th-character extensions that indicate the type of encounter for the injury."

position. The complete code for a displaced fracture of the medial malleolus of the right tibia, initial encounter, is S82.51XA. The equivalent ICD-9-CM code is 824.2, "Fracture of medial malleolus, closed."

Guidelines for coding aftercare have also changed in ICD-10-CM. Today, you would use aftercare codes from subcategories V54.0, V54.1, V54.8, or V54.9 to represent aftercare treatment. When you start using ICD-10-CM, you will code the acute injury code with the 7th digit D, "subsequent encounter" for most fractures, or one of the other appropriate subsequent-encounter codes mentioned earlier to represent routine or delayed healing, nonunion, or malunion. You would not use aftercare Z codes for injuries or poisonings, where the 7th characters are provided to identify subsequent care. For example, if your patient is returning for cast removal after a greenstick fracture of the right arm, you would code S523.311D, "greenstick fracture of shaft of radius, right arm, subsequent encounter for fracture with routine healing," to report the diagnosis for the visit.

The last big coding change in chapter 19 has to do with late effects. Today, you search for the term *late effect* and look for the condition listed under the term. In ICD-10-CM, *late effect* has been removed and replaced by the term *sequela*. A sequela is the residual effect (condition produced) after the acute phase of an illness or injury has terminated. There is no time limit on when a sequela code can be used. The condition or the nature of the sequela is sequenced first; then you will code to the injury with the 7th character S. For example, your patient returns to your clinic with a complaint of pain in her right wrist. Six months earlier, she was treated for a scaphoid fracture of the right wrist. Currently, you would bill 719.43, "pain in joint, forearm," and 905.2, "late effect of fracture of upper extremities." In ICD-10-CM, you will code M25.531, "pain in right wrist," and S62.011S, "displaced fracture of distal pole of navicular [scaphoid] bone of right wrist, sequela." ■

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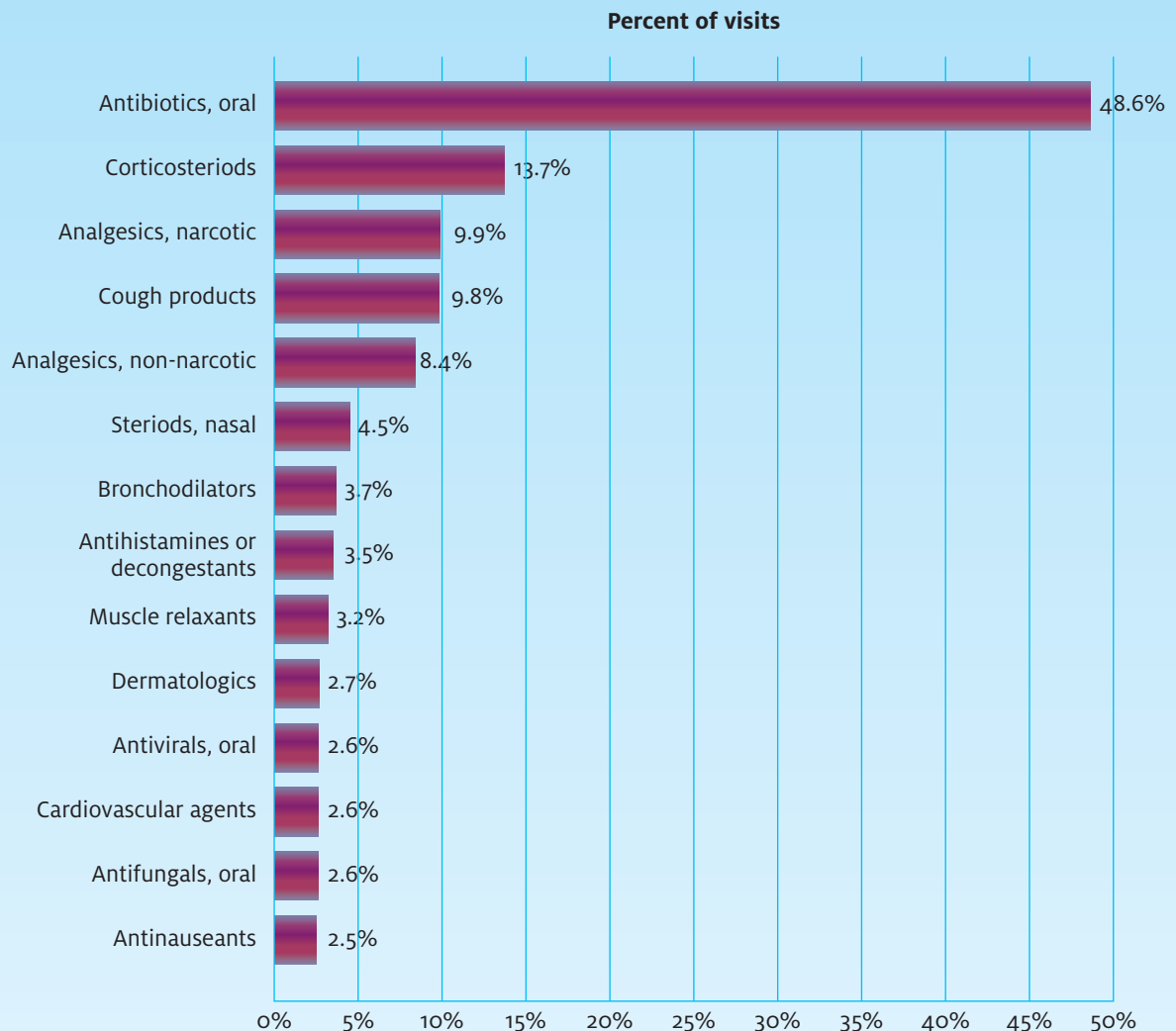


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The survey's methodology and data abstraction forms were initially designed in 2008 by researcher Robin M. Weinick, PhD, then an assistant professor at Harvard Medical School and a senior scientist at the Institute for Health Policy at Massachusetts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

TOP CLASSES OF PRESCRIPTIONS WRITTEN AT U.S. URGENT CARE CENTERS IN 2014



Source: 2014 Urgent Care Chart Survey, *Journal of Urgent Care Medicine*.

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