

THE JOURNAL OF URGENT CARE MEDICINE®

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Original Research: Early Diabetes Screening in the Urgent Care, Part 1



1 Letter From the Editor-in-Chief Patients with Chronic Pain Caught in the Middle

SEPTEMBER 2016

UCCOP

VOLUME 10, NUMBER 11

Urgent Care Association of America

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LETTER FROM THE EDITOR-IN-CHIEF

There Ain't No Shame in Pain



A fter years of lax oversight and insufficient skepticism from physicians, the United States is in an undeniable opioid epidemic, triggering seismic reforms and a regulatory frenzy. The scope of the problem is indeed staggering: Every 18 minutes,

someone dies of opioid overdose, and half of those deaths involve prescription pills.

Oversupply and ease of access have been identified as the main culprits, and much of the prevention strategy revolves around physician prescribing. New guidelines have been advocated that limit the indications for narcotic analgesics. Prescription drug databases are now operating in the majority of states, and many states now require health-care providers to do database checks before prescribing opioids and other controlled substances. These efforts are already working. In my state of Ohio, reforms have made a significant dent, with 92 million fewer opioid doses prescribed in 2015 compared with 2012. With the Ohio Automated Rx Reporting System¹ in place since 2006, doctor shopping has decreased 71% in the state.²

As with all policies, however, there are winners and losers. Perhaps the patients most at risk are those living with chronic pain. One in 5 people will experience significant chronic pain in their lifetime.³ Those who have chronic pain have always dealt with stigma. They are treated by many in the medical community with skepticism and often with frank discrimination. The reasons are as complex as the disease entities themselves, but one common theme seems to recur: The experience of pain is subjective, and its measurement is even more so. We have no test to objectively quantify pain, and there is tremendous variability in the sensation and disability associated with painful conditions. This variability has been linked to differences in pain thresholds, a vaguely defined and influenced metric. And this pain constitution has been strongly correlated to patients' psychological stamina and comorbidities.

The science, however, is very uncertain about causality. For example, anxiety is a common comorbidity in chronic pain, but no one would deny that pain itself induces anxiety and that the degree of anxiety is directly proportional to the intensity of pain. In addition, the chronicity of the pain and the stress response that follows trigger a cascade of neuroendocrinologic changes that can become permanent and further inhibit effective coping and recovery. "One in 5 people will experience significant chronic pain in their lifetime. Those who have chronic pain have always dealt with stigma. They are treated by many in the medical community with skepticism and often with frank discrimination."

Subjectivity and comorbidity cultivate equally subjectiveand often inaccurate and biased—judgments and assumptions on the part of physicians. These judgments become labels, and then the labels become stereotypes, and before you know it, the entire staff is treating pain patients with scorn and dismissiveness. The frantic attention to reducing unnecessary opioid use will only increase animosity toward patients with chronic pain and is likely to encourage a simplistic approach that could lead to narrow, rigid treatment plans. In a noble effort to curtail "unnecessary" prescribing, we find ourselves trying to create objectivity and definition for a subjective and complex problem. I worry that we are creating an environment of contempt and shame, causing suffering and isolation for those in pain. Avoiding this unintended adverse effect will require as much attention and sensitivity as our effort to contain the epidemic itself.

Educating physicians about pain management cannot be limited to protocols and regulatory mandates. It is imperative that we do a better job understanding the complexities and variability of pain states and foster an environment of patience and empathy among clinical and reception staff. Some excellent tools and resources can be found at www.painedu.org and www.aachonline.org.

1.https://www.ohiopmp.gov/Portal/Default.aspx

2. https://www.ohiopmp.gov/Portal/State.aspx

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

^{3.} Roll JM, Schraudner T, Murphy S, McPherson S. Prevalence of persistent pain in the U.S. adult population: new data from the 2010 national health interview survey. J Pain. 2014;15:979–984.



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CLINICAL

19 Abdominopelvic Pain, Part 1: Approach to Men in the Urgent Care Setting



Abdominopelvic pain is one of the most complex issues encountered in the urgent care setting. Part 1 of this two-

part article describes diagnosis and treatment of various etiologies in men. *Taylor L. Fischer, MMS, PA-C*

CASE REPORT



Swelling of the neck can have infectious, lymphatic, or malignant causes. Untreated complications

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Undiagnosed type 2 diabetes mellitus affects more than 9 million Americans. Part 1 of this two-part article focuses on the possibility of routine diabetes screening for adult urgent care patients.

Shannon R. Clark, DNP, MSN, RN, RNFA, FNP-C, and Marisa L. Wilson, DNSc, MHSc, RN-BC, CPHIMS

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How can your clinicians have enough time for all the patients they must see and not get buried under a

backlog of charting? Medical scribes may be just what they need.

Alan A. Ayers, MBA, MAcc

CODING Q&A

51 ICD-10-CM and ICD-10-PCS Changes Effective October 1, 2016



Do you know what coding changes are coming next month in the *International*

Classification of Diseases, 10th Revision, Clinical Modification? Don't code any forms until you read this update. David E. Stern, MD, CPC

IN THE NEXT ISSUE OF JUCM

Urgent care as a specialty could make a difference in the U.S. epidemic of type 2 diabetes mellitus. In the second part of a two-part article, authors Shannon R. Clark, DNP, MSN, RN, RNFA, FNP-C, and Marisa L. Wilson, DNSc, MHSc, RN-BC, CPHIMS, will discuss the results of an urgent care center pilot study of a structured, multidisciplinary pathway to evaluate and identify undiagnosed prediabetes and diabetes.

Abdominopelvic pain can present quite differently in men versus women. In the second part of a two-part article, author Taylor L. Fischer, MMS, PA-C, addresses evaluation and treatment of the causes of such pain in women.

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Mission Statement

JUCM The Journal of Urgent Care Medicine supports the evolution of urgent care medicine by creating content that addresses both the clinical practice of urgent care medicine and the practice management challenges of keeping pace with an ever-changing 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.

Affiliations

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The pendulum is swinging again. For years, oversight of opioid prescribing was lax. Now there's an opioid epidemic that has set off a major reform effort. Who gets stuck in the middle? Patients who live with chronic pain do. Editor-in-Chief Lee Resnick writes that to help these patients, we need to do more than set protocols and mandates for physicians. We must learn more about the variability of pain states and cultivate empathy on the part of both clinical and reception staff members.

Abdominopelvic pain is one of the most complex issues that urgent care practitioners encounter, so evaluating the cause behind the pain can make even the most savvy provider



sweat. In the first part of a two-part article, Taylor L. Fischer, MMS, PA-C, discusses the possible causes in men and how to test for them and treat them. In our next issue, he will continue the article, covering abdominopelvic pain in women.

Fischer is an Assistant Professor at Wingate University, Harris Department of Physician Assistant Studies, Hendersonville Campus, in North Carolina.



The United States is in the middle of an epidemic of type 2 diabetes mellitus. In 2011, there were more than 25.8 million Americans with

diagnosed diabetes, and an estimated 79 million more have blood glucose levels that put them at risk of developing the disease. In a review of the literature, authors Shannon R. Clark, DNP, MSN, RN, RNFA, FNP-C, and Marisa L. Wilson, DNSc, MHSc, RN-BC, CPHIMS, make the case that prediabetes and diabetes would be diagnosed earlier in the disease process in millions of individuals annually if patients were routinely screened by blood glucose testing. And what better way for urgent care as a specialty to make a difference? In our next issue, the authors will discuss the results of an urgent care center pilot study of a structured, multidisciplinary pathway to evaluate and identify undiagnosed prediabetes and diabetes.

Clark is a Doctor of Nursing Practice from Johns Hopkins University, Boston, Maryland, and is President and Chief Executive Officer of Synergy Health Center and Urgent Care, Pleasanton, California. Wilson is an Associate Professor in the University of Alabama at Birmingham School of Nursing, Birmingham, Alabama.

Providing care for more patients in a short amount of time and freeing clinicians from a backlog of charting are worthy goals. One way to achieve those objectives could be to hire med-



ical scribes. In our *Practice Management* section this month, Alan A. Ayers, MBA, MAcc, discusses with industry expert Cameron Cushman how scribes fit into the clinical setting, what the benefits and considerations are in hiring them, how prevalent their use is, and how they are trained.

Ayers is Vice President of Strategic Initiatives for Practice Velocity, LLC and is Practice Management Editor of the *Journal* of *Urgent Care Medicine*. Cushman is vice president of marketing and sales for PhysAssist Scribes of Fort Worth, Texas.

Neck swelling can have many causes, including viral, bacterial, neoplastic, traumatic, and diseases. It takes awareness of all of these



causes, along with knowledge of uncommon presentations, to ensure an accurate diagnosis and an optimal treatment choice. Authors Duc P. Le, MS-4, Kaitlin A. Dougherty, MS-3, and Shailendra



Saxena, MD, PhD, discuss a case of a common midline neck mass with an uncommon presentation.

At Creighton University Medical Center in Omaha, Nebraska, Le is a fourth-year medical student and Dougherty is a thirdyear medical student. Saxena is a Professor in the Department of Family Medicine at Creighton University School of Medicine and is a member of the *JUCM* editorial board.

Also in this issue:

In *Health Law and Compliance*, **Alan A. Ayers, MBA, MAcc**, explains the necessity of ensuring that patients' health information is protected when urgent care centers get rid of equipment such as computers, copiers, fax machines, and telephones. Failure to destroy such information can bring on penalties from the U.S. Department of Health and Human Services of \$50,000 to \$1,500,000 per incident, with fines of \$10,000 to \$50,000 per record.

Sean M. McNeeley, MD, and the Urgent Care College of Physicians review new reports from the literature on the newest guidelines for treating diarrheal disease, testing for syphilis in patients at high risk, the worth of opioid-monitoring programs, the relation between infants' fecal microbiota and their risk of bronchiolitis, the adverse affects of fluoroquinolone antibiotics, and more.

Don't miss this issue's *Coding Q*@A column. It has been 4 years since the last annual update of the *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD-10-CM). **David E. Stern, MD, CPC,** brings you up to date on the new codes you'll need to know starting in October.

How many unique urgent care centers are there in the United States? In our *Developing Data* column, we break down by state how many centers are in our database, and we include data for Washington DC too.

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FROM THE UCAOA PRESIDENT

Inaugural UCAOA Regional Conference in Philadelphia

■ STEVE P. SELLARS, MBA

t is only appropriate that UCAOA should launch its first Regional Conference in such a historic city as Philadelphia. The goals in choosing this new venue included reaching more members in a smaller setting closer to where they live and work, especially those who cannot take extended time away to attend a national event. In fact, 70% of the attendees in Philadelphia had never been able to attend a UCAOA event previously. This audience was introduced to new content provided by knowledgeable, engaging speakers, many of whom were also local, who addressed issues relevant to our industry. Eighty percent of the attendees indicated that the regional conference helped them increase their knowledge base and discover improvements that they want to implement in certain areas in daily practice, including Lyme disease treatment, referral management, prescribing habits



Mike West, CEO of the Rothman Institute and keynote speaker at the Regional Conference, discussed healthcare market changes and how urgent care centers should consider participating in integrated networks.



Steve P. Sellars, MBA, serves as president of the Urgent Care Association of America through 2017. He is Chief Executive Officer of Premier Health, Baton Rouge, Louisiana.

for antibiotics and pain medications, laboratory controls, telemedicine, revenue cycle best practices, communication with staff, regulatory details, education for patients regarding bites and stings, and transitioning satisfied patients into loyal fans.

More new sessions and speakers are lined up for the Fall Conference in Nashville, Tennessee (September 29 through October 1), to provide pearls of wisdom and takeaways on practice improvements that you can implement in your centers. Sign up today! Watch for more information about next year's Regional Conference in Michigan, as a partnership between UCAOA and the Urgent Care Association of Michigan.

Thank you to our conference sponsors: AtlantiCare, Beebe Healthcare, Doximity, DocuTAP, and Practice Velocity for helping to make this event possible!



Left to right at the reception: Will Gluckman, DO, MBA, FACEP, CPE, CPC (UCAOA Clinical Content Advisor and past board member); Steve Sellars, MBA (UCAOA President); Carla Jamison (UCAOA Director of Education); and Rob Kimball, MD, FCFP (UCAOA Immediate Past President).



Pam Sullivan, MD, MBA, FACP, PT (UCAOA President-Elect, at left), talks with Rona Heublum-Colton, MD, FACP (middle), and another conference attendee in front of the booth of AtlantiCare, sponsor of the reception.

Clinical

Original Research: Early Diabetes Screening in the Urgent Care, Part 1

Urgent message: Undiagnosed type 2 diabetes mellitus affects more than 9 million Americans. This first part of a two-part article focuses on evaluation of diabetes screening for the adult urgent care patient in whom diabetes has not been diagnosed, using effective early disease-detection strategies to reduce the long-term burden of diabetes. *How this article helps you: by providing data to assist you in deciding about screening in your center.*

SHANNON R. CLARK, DNP, MSN, RN, RNFA, FNP-C, AND MARISA L. WILSON, DNSc, MHSc, RN-BC, CPHIMS

Introduction

There are now more than 9000 urgent care centers across the United States, and they serve as the main entry point for the medical care of a large percentage of the population.¹ Lack of access to primary-care services, medical workforce shortages, lack of health insurance, and lack of time for many Americans have steadily increased the use of urgent care centers for nonurgent problems.² Historically, urgent care centers focused on providing episodic care for acute illness and injury. In response to recent health-care capacity strain, many urgent care centers have adjusted clinical procedures to provide both acute and chronic care.

Chronic diseases like type 2 diabetes mellitus are occur-

Shannon R. Clark, DNP, MSN, RN, RNFA, FNP-C, is a Doctor of Nursing Practice from Johns Hopkins University, Boston, Maryland, and is President and Chief Executive Officer of Synergy Health Center and Urgent Care, Pleasanton, California. Marisa L. Wilson, DNSc, MHSc, RN-BC, CPHIMS, is Associate Professor in the University of Alabama at Birmingham School of Nursing, Birmingham, Alabama.



ring in epidemic proportions, creating a demand for urgent care practitioners to diagnose and manage more complex

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cc	Common symptoms 🔹 Remove Symptom
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MED LIST	
~	Specific symptoms
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FAM HX	Arm numbness
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IMMUNZ	Injury/pain to arm
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R.O.S.	
EXAM	
~	4.6
PROCED	Templates + QWI +
ASSESS	Abdominal pain Alopecia Anxiety
ABBEBB	Abnormal gait Alpha Thalassemia Apnea
CODING	Abnormal lab Androgen deficiency Arm
	4



illnesses. With urgent care centers providing a significant portion of primary-care services, communication between the urgent care provider and the primary-care provider (PCP) is essential. Yet the literature demonstrates consistently impaired communication between urgent care providers and PCPs. [Editor's note: See "'Why Are You Calling Me?' The Problem with Patient Transfers in Urgent Care," at http://www.jucm. com/why-are-you-calling-me-the-problem-with-patient-transfers-in-urgent-care/, and "'Why Are You Calling Me?' How to Fix Relationships with Emergency Departments," at http://www.jucm.com/why-are-youcalling-me-how-to-fix-relationships-with-emergencydepartments/.] Urgent care centers must expand and improve current practice standards to incorporate a coordinated effort toward preventative care, primary care, and chronic-disease management.

Background

Diabetes is a leading cause of premature morbidity and mortality.^{3,4} The economic and health burden continues to grow.⁵ In 2012, the estimated global prevalence of diabetes was 8.3%, or more than 371 million people living with diabetes, and the projection for 2030 is 552 million adults.^{5,6} In the United States, the number of cases of diagnosed diabetes has steadily risen over the past few decades, increasing from 23.6 million in 2007 to over 25.8 million in 2011. An estimated 79 million Americans have blood glucose levels in ranges indicating prediabetes or a risk of developing diabetes. In total, the numbers place more than 100 million Americans at risk.⁷

Some estimate that undiagnosed diabetes affects more than 9 million Americans.⁷ This number is likely low, because more than 50 million Americans are without health insurance and have little or no access to health care. The Patient Protection and Affordable Care Act is the latest attempt at health-care reform, bringing a projected 32 million newly insured citizens into the healthcare system by 2019.^{2,8} More than half of all currently uninsured citizens do not have a regular source of health care, and many of these individuals likely will gain access to initial care through urgent care centers.² This influx of patients will provide urgent care centers with the opportunity to obtain more accurate diseaseprevalence data through the development and implementation of screening measures to detect chronic diseases such as prediabetes and diabetes.

The total U.S. diabetes expenditure⁹ reached approximately \$48 billion in 2013, and is projected to reach an astonishing \$79 billion by 2023. Findings consistently demonstrate a strong link between early diabetes detection and improved health outcomes. The significant health and financial impact supports the pressing need to develop early-detection strategies to reduce the longterm burden of the disease.

Methods

To better understand current diabetes screening strategies in the asymptomatic patient population, we conducted a literature review in PubMed, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Embase, Cochrane Library, and Scopus. Over 10,000 articles across all databases matched the search criteria. Sixteen studies matched the intended project purpose. This comprehensive literature review revealed few descriptions of diabetes screening methods in the asymptomatic population.^{10,11} High-quality evidence to support the efficacy of diabetes screening was predominantly found in the preoperative setting.^{10–13}

The supported value of diabetes screening in the perioperative setting suggests that future studies specific to diabetes screening in the urgent care environment may yield similar results. Translation of the preoperative study findings to the urgent care setting can be used to (1) establish the feasibility of routine diabetes screening in the asymptomatic population, (2) perform diabetes screening in asymptomatic patients as an intervention to demonstrate a positive relationship between early screening and a reduction in future complications, and (3) prove that to minimize the long-term burden of the disease, providers outside the primary-care specialty must adjust current practice regimens to routinely include screening measures for chronic diseases.

Diabetes Screening

The 16 studies selected for analytical review included evaluation and discussion of unknown hyperglycemia across all practice settings, with a primary focus on the perioperative and operative setting. Researchers who looked at the opportunity for diabetes screening in the preoperative patient found strong support for screening fasting preoperative patients on the day of surgery to reduce the prevalence of undiagnosed diabetes.¹⁰⁻¹³ Tapp et al found that even among patients who had insurance and recent primary-care visits, nearly onequarter still had previously unrecognized elevated fasting plasma glucose (FPG) levels identified on the day of surgery.¹³ Wang et al found that in patients undergoing surgery who are not known to have diabetes, increased preoperative glucose levels are a marker for worse postoperative outcomes.¹¹

Data from this research demonstrated that prediabetes or diabetes would be diagnosed earlier in the disease process in millions of individuals annually through the screening processes described in these studies alone.¹⁰ These studies' findings validate the strong link between early diabetes detection and reduced long-term complications.^{10–13} Translation of evidence supporting asymptomatic diabetes screening in the preoperative setting can be used to develop methods for early screenings in the urgent care environment. To improve the urgent care provider's ability to make the diagnosis earlier in the disease process, solutions must be directed at developing screening measures that are adaptable to a variety of practice settings, including fast-paced arenas such as urgent care centers. Urgent care providers are in a unique position to use evidence-based guidelines to identify undiagnosed prediabetes and diabetes in the volumes of patients they treat annually.

Clinical Guidelines

The 2016 American Diabetes Association (ADA) guidelines regarding standards of medical care in diabetes, along with a consensus statement by the American College of Endocrinology and the American Association of Clinical Endocrinologists, serve as evidence-based guidelines for the diagnosis and treatment of prediabetes, diabetes, and comorbidities associated with diabetes.^{14,15}

Even though several high-quality diabetes treatment guidelines are available, they are frequently ignored in urgent care centers.¹⁴ One reason seems to be the challenge of adapting these guidelines into a format suitable to the specific practice demands of specialties outside of primary care. Compounding the problem, medical service reimbursement decreases have driven a trend toward shorter visit times to increase patient volume and resultant revenue. Increasing the requirements of urgent care providers to include detection of chronic diseases could result in increased patient wait times and staff overload, in turn negatively impacting buy-in from the healthcare team.

Even though guidelines are not fully used by urgent care centers, people will continue to present for primarycare services and require diabetes screening. Urgent care centers must develop new and efficient ways to address the care of these individuals and move toward consistently providing the same preventative-care approaches that would normally occur at PCP offices.

The authors of the 2016 ADA guidelines used highlevel, evidence-based research for the recommendations, and the guidelines can be viewed as the gold standard

Table 1. Testing Criteria for Diabetes in Asymptomatic Adult Individuals

- Testing should be considered in all adults who are overweight (BMI ≤ 25 kg/m²)^a and have additional risk factors:
 - Physical inactivity
 - First-degree relative with diabetes
 - High-risk race or ethnicity
 - Women who delivered a baby weighing 9 lb (4 kg) or who had a diagnosis with gestational diabetes mellitus
 - Hypertension (140/90 mm Hg or patient is receiving therapy for hypertension)
 - HDL cholesterol level of 35 mg/dL and/or a triglyceride level of .250 mg/dL
 - Women with polycystic ovarian syndrome
 - HbA1c of 5.7%, IGT, or IFG on previous testing
 - Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)
 - History of cardiovascular disease
 - Physical inactivity
- 2. In the absence of the above criteria, testing for diabetes should begin at age 45 years.
- 3. If results are normal, testing should be repeated at least at 3-year intervals, with consideration of more frequent testing depending on initial results (e.g., those with prediabetes should be tested yearly) and risk status.

^aAt-risk BMI may be lower in some ethnic groups.

BMI, body mass index; HbA1c, glycated hemoglobin; IFG, impaired fasting glucose; IGT, impaired glucose tolerance.

Modified from American Diabetes Association. Standards of medical care in diabetes—2014. *Diabetes Care*. 2014;37(suppl. 1):S14–S80.

for diabetes screening, diagnosis, and treatment across all practice settings.¹⁴ The guidelines address clinical diagnosis and management of diabetes both for symptomatic and asymptomatic individuals. According to the ADA guidelines, screening is to be conducted in all patients 45 years of age and older, and in younger overweight patients with at least one defined risk factor^{10,14} (**Table 1**). Measures to create efficient and cost-effective ways to improve the ability of urgent care providers to implement the ADA guidelines will translate to increased disease detection and reduced associated complications. Urgent care use of the guidelines to identify undiagnosed diabetes is not yet well studied or implemented, and this must be addressed.

Pathophysiology

Approximately 90% to 95% of those with diabetes have type 2.^{6,7,14} The disease is a complex and progressive process characterized by chronic hyperglycemia resulting from defects in insulin action and insulin resistance



(From Pratley RE. The early treatment of type 2 diabetes. Am J Med. 2013;126[9A]:S2–S9, with permission. Available from http://www.amjmed.com/article/S0002-9343(13)00485-3/fulltext.)

in the peripheral tissues.¹⁴ Hyperglycemia is associated with long-term damage to multiple organs, as depicted in **Figure 1**, with particular effects on the eyes, kidneys, nerves, heart, and blood vessels. The cause of type 2 diabetes is a combination of resistance to insulin action and inadequate compensatory insulin secretory response caused by the gradual decline in pancreatic beta-cell function.^{14,16}

Most patients with type 2 diabetes are obese, with obesity itself accounting for some degree of the insulin resistance. The risk of developing type 2 diabetes increases with age, obesity, and lack of physical activity. Type 2 diabetes occurs more often in women with a history of gestational diabetes and in individuals with hypertension or dyslipidemia.¹⁴

Classic symptoms of the disease include polyuria, polydipsia, and weight loss, with some patients experiencing polyphagia and blurred vision. Patients with prediabetes and diabetes have an increased incidence of developing atherosclerotic cardiovascular, peripheral arterial, and cerebrovascular disease, as well as hypertension and dyslipidemia.¹⁴ A study by Tapp et al demonstrated that individuals with impaired fasting glucose (IFG) and type 2 diabetes often have increased bodily pain and reduced physical functioning, general health, mental health, and vitality at baseline.¹³

A growing body of evidence suggests that the risk of developing complications is greater with glucose levels beyond established thresholds, and individuals with levels in the prediabetic range are already at risk. The microscopic damage typically starts during the lengthy prediabetic stage and gives rise to a substantial increased risk of developing overt type 2 diabetes in parallel with persistent hyperglycemia.^{3,12} Although there are currently no approved medication treatment options for prediabetes, the evidence shows that early intervention with lifestyle modifications such as diet, exercise, and weight-loss measures may slow how quickly the disease progresses.³ The duration of glycemic burden is the strongest predictor of adverse outcomes, supporting the need for effective strategies to prevent the progression from prediabetes to diabetes.^{3,10}

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Any Medical Physics or Imaging questions specific to the **UC-5000** can be directed to Source-Ray via www.sourceray.com, 631-244-8200, or directly to me: Physics Consultants Inc., Sree@sreepci.com.



Table 2. Categories of Increased Risk for Prediabetes

- Fasting plasma glucose levels of 100–125 mg/dL
- Findings on an oral glucose tolerance test of
- 140–199 mg/dL
- Glycated hemoglobin (HbA1c) levels of 5.7–6.4%

Table 3. Criteria for Diagnosis of Diabetes				
Criterion	Details ^a			
Glycated hemoglobin (HbA1c) levels of 6.5%	The test should be performed in a laboratory using a method that is certified by the National Glycohemoglobin Standardization Program and standardized to the Diabetes Control and Complications Trial assay.			
Fasting plasma glucose level of 126 mg/dL	Fasting is defined as no caloric intake for a minimum of 8 h.			
2-hour plasma glucose level of 200 mg/dL during an oral glucose tolerance test	The test should be performed as described by the World Health Organization, ⁶ using a glucose load containing the equivalent of 75 g of anhydrous glucose dissolved in water.			
In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose level of 200 mg/dL				
^a In the absence of unequive repeat testing.	ocal hyperglycemia, results should be confirmed by			

Testing for Diabetes

The 2014 ADA guidelines recommend testing to detect type 2 diabetes and prediabetes in asymptomatic adults who are overweight or obese, with a body mass index \geq 25 kg/m², in combination with one or more risk factors for diabetes (**Tables 2 and 3**). For those who are age 45 years and older, testing should be conducted regardless of body mass index or risk factors. The glycated hemoglobin (HbA_{1c}) test, the FPG test, and the 2-hour, 75-g oral glucose tolerance test (OGTT) are all considered appropriate means for detection of prediabetes and type 2 diabetes. Patients who present to urgent care centers are typically not fasting; therefore, obtaining an HbA_{1c} value is often the best diagnostic option. The ADA recommends that if test findings are normal, the test should be repeated at 3-year intervals. The same tests are used for both screening and diagnosing and can identify prediabetes and diabetes anywhere along the clinical spectrum of the disease process.¹⁴

Making the Diagnosis

In general, diagnosis of diabetes should be made when HbA_{1c} values are $\ge 6.5\%$. The test should be performed in a laboratory certified by the National Glycohemoglobin Standardization Program and standardized to the Diabetes Control and Complications Trial assay. Fingerstick HbA_{1c} values should be used only for screening purposes. All patients who test in the prediabetic and diabetic range by fingerstick should undergo standard laboratory testing to confirm diagnosis. An FPG ≥ 126 mg/dL meets the criteria for diagnosis of diabetes; fasting is defined as no caloric intake for at least 8 hours. A diabetes diagnosis is confirmed when a 2-hour plasma glucose level is ≥ 200 mg/dL.¹⁴

Prediabetes is a diagnostic term used to describe individuals who have IFG and impaired glucose tolerance (IGT) on any one of the three standard tests. Those who test in the prediabetes range have a higher risk of developing diabetes.^{3,12,14} IFG and IGT are linked to obesity, dyslipidemia, and hypertension. Criteria for prediabetes diagnosis¹⁴ (**Table 3**) include IFG levels of 100 to 125 mg/dL, IGT values of 140 to 199 mg/dL, and HbA_{1c} values of 5.7% to 6.4%.

The Debate Over Glycated Hemoglobin

Early detection of diabetes is fundamental in preventing diabetes and its associated complications. Research has shown that the HbA1c test, the FPG test, and the OGTT are all well-established instruments for diagnosing diabetes.¹⁴ However, all diabetes-testing methods are imperfect and have unique advantages and disadvantages regarding sensitivity and reliability. A strong body of evidence supports measurement of HbA1c for diabetes screening.^{3,12,14} The HbA_{1c} value provides a reliable measurement of chronic glycemic control, and is a simple, cost-effective test that can be performed in all health-care environments. One of the main concerns discussed in the literature regarding the HbA_{1c} test is the variation in results and the established threshold recommendations for diagnosis generated from both studies and guidelines.¹² Variability is most often attributable to incomplete correlation between average glucose levels in individuals of particular races or ethnicities or to the presence of certain anemias and hemoglobinopathies. Epidemiologic studies responsible for HbA1c recommendations have been conducted in all populations and



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demonstrate HbA_{1c} cut point generalizability. For patients with abnormal red blood cell turnover, such as during pregnancy, after recent blood loss or transfusion, or in some anemias, the ADA advises that only blood glucose criteria be used to diagnose.¹⁴

Suggested methods to reduce variability and improve detection involve the use of lower thresholds of HbA_{1c} values. Studies whose authors caution against the use of HbA1c values for diabetes screening have used high threshold cutoffs that are sensitive enough to identify those with diabetes but not always those with prediabetes. It is equally as important to identify prediabetes as diabetes, and all patients who screen positive for prediabetes or diabetes require repeat testing to confirm their diagnosis. A 6-year community-based prospective study by Choi et al found HbA_{1c} testing to be an effective screening method and a strong predictor of future disease.¹² Evidence reveals that using a lower HbA_{1c} cutoff such as 5.9% helped clinicians to identify more individuals with undiagnosed diabetes. Further, individuals with an HbA_{1c} value $\geq 5.6\%$ were shown to have an increased risk of developing diabetes, independent of other risk factors.^{12,14}

Use of HbA_{1c} values for screening in the general population has several advantages over the FPG test and the OGTT: (1) Specific to the urgent care setting, HbA_{1c} values are preferable because the patient does not have to be fasting; (2) initial screening can be done with a fingerstick HbA_{1c} test, which produces immediate results; and (3) the HbA_{1c} test better indicates chronic fluctuations in elevated glycemic levels, taking into account a 3-month average rather than a snapshot in time.

Connecting Urgent Care with Primary Care

The 2014 Benchmarking Survey of the Urgent Care Association of America revealed that an average of 75% of urgent care patients have a PCP outside the center, leaving 25% who may be using urgent care centers as their PCP. Only 26% of urgent care centers are affiliated with a multispecialty clinic that provides primary care.¹

The association's 2012 survey demonstrated that 93% of urgent care centers have a standard process in place to help patients find a regular provider, yet only 55% of

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patients are actually assisted with this task.¹ Standard processes in place at some urgent care centers include providing a list of local PCPs and assisting patients in making a future appointment with either an internal PCP or a PCP outside the practice. Urgent care centers' assistance levels have been found to be either very high or very low, which likely ties into whether the urgent care center formally provides primary care internally.

Making the Case for Screening

A growing trend toward walk-in clinics, e-clinics, and telephone provider visits has emerged in response to increased demand for quick, accessible, and affordable care. The urgent care center stands as one of the most evolved and established walk-in clinic models, historically designed to provide only episodic acute care. Thus, urgent care's next task is to improve the consistency with which walk-in clinics coordinate with PCPs and to improve the ability to provide comprehensive preventative and primary-care services.

What's Next

Part 2 of this article (in the October 2016 issue) will review the results of an urgent care center pilot study implementing a structured, multidisciplinary pathway to evaluate and identify undiagnosed prediabetes and diabetes. The study population included adult patients with no previous diagnosis of prediabetes or diabetes who presented for care at Synergy Health Center and Urgent Care, a community-based multispecialty clinic and urgent care center in Pleasanton, California. The purpose of the project was to demonstrate a guideline specific to urgent care for improving early diabetes screening methods that do not impact patientencounter times, clinic efficiency, or cost. Study aims included increasing detection rates of undiagnosed prediabetes and diabetes, improving referral between urgent care centers and primary care, and demonstrating the feasibility and usability of diabetes screening measures in the urgent care environment.

Conclusion

Diabetes is a disease of huge health consequence, and continued efforts to investigate screening options in a variety of health-care settings is required. Data in the literature consistently reveal that a high proportion of patients with a new diagnosis of prediabetes or diabetes already have comorbidities and complications.^{14,16} For this reason alone, interventions directed at early screening to identify those with impaired glycemic control are

imperative. Further research is required to determine the feasibility of diabetes screening in fast-paced environments such as urgent care centers.

Because the U.S. health-care system is faced with severe capacity strain and because the implementation of the Patient Protection and Affordable Care Act has brought an influx of millions of newly insured citizens, the demand for urgent care centers to provide primary-care services and manage chronic diseases is critical. The best way to address this problem is to develop modalities to reach those who need primary-care services but have access only to urgent care centers for this type of care. To accomplish this goal, urgent care centers and urgent care providers must consider adjusting current practice standards and clinical procedures.

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Abdominopelvic Pain, Part 1: Approach to Men in the Urgent Care Setting

Urgent message: Abdominopelvic pain is one of the most complex issues encountered in the urgent care settings. Clinicians must make evaluations and decisions rapidly, and it is imperative that they make the appropriate diagnosis to prevent negative outcomes. *How this article helps you: assists you in detecting potentially life-threatening problems.*

TAYLOR L. FISCHER, MMS, PA-C

Introduction

A bdominopelvic pain is something that every urgent care provider can relate to. Although urgent care statistics are not readily available, the Centers for Disease Control and Prevention reports that 5.1% of emergency department (ED) visits are because of abdominal pain, whereas 10.9% of all ED diagnoses made are related to the digestive or genitourinary system. More adults visit the ED annually for stomach-related pain or cramps than for any other concern.¹ It is reasonable to assume that a similar number of patients, if not more, present to an urgent care center only, or prior to going to an ED. Pain anywhere in the abdomen or pelvis can represent a myriad of potential problems, some of which can be life-threatening.

Of course there is a great divide between the male and female presentations of abdominopelvic pain and the subsequent evaluations. Given the breadth of the topic, this discussion is broken into two parts. Part 1 focuses



on men, with examination of relevant anatomy, medical history, physical examination, testing, and, finally, diagnosis and treatment. Part 2, in this journal's next issue, will focus on women and will include discussion of pitfalls to avoid in practice.

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Consider the case of a 78-year-old man who presents to an urgent care center with a 3-day history of worsening generalized abdominal pain. He had a sudden worsening of the pain the preceding night and now reports associated back pain as well. He has no nausea, vomiting, diarrhea, or constipation. He says his abdomen feels full, and his legs feel weak. He has never had pain like this before, but he admits that he has not seen his primarycare provider in 5 years. The task for the health-care provider is to tease out the relevant information, to avoid being overwhelmed by the potential seriousness and large differential, and to competently arrive at a decision that will best serve the patient. The relevant anatomy should always be taken into consideration, and thus male anatomy is discussed next.

Anatomy

Much of what is generally considered the digestive tract passes through or is in some way connected to the abdomen and pelvis. As food and liquid enter the stomach from the esophagus, they cross the diaphragm and enter the abdominal cavity. From the stomach, substances cross into the small intestine, which is broken into three parts—the duodenum, the jejunum, and the ileum. The ileum connects to the large intestines at the ileocecal valve. From there, digestive contents move into the ascending colon, across transverse colon, down the descending colon, into the sigmoid colon, and out through the rectum and anus.

Other organs connect to the intestines along the way to provide various enzymes and to aide in the absorption of important nutrients. The liver secretes bile, which is stored in the gallbladder. The pancreas secretes insulin and other enzymes. The appendix, although having no clinical function, is a site of infection. It attaches to the large intestine near the proximal ileum. The urogenital tract also sits within the abdominopelvic cavity. The bladder and prostate sit above the musculature of the pelvic floor in what is commonly referred to as the true pelvis, the area of the pelvis below the pelvic brim. The inguinal canal opens through the ligamentous and muscular structures of the anterior abdominal wall to connect the testicles to the peritoneal space. The blood supply and ductus deferens pass through the canal. The major vessels that carry blood to and from the abdomen and the lower half of the body also pass through the abdominopelvic cavity-the descending aorta and the inferior vena cava.

The abdominal cavity is wrapped in a serous membrane known as the peritoneum. The peritoneum is better described as a sac in which abdominal organs protrude. The aspect that lines the abdominal wall is the parietal peritoneum, and the aspect into which organs push is the visceral peritoneum. Any organ with only an anterior surface touching the peritoneum is considered retroperitoneal in nature, including the ascending and descending colon, kidneys, ureters, adrenal glands, aorta, inferior vena cava, rectum, esophagus, duodenum, and the pancreas, except for its tail. This leaves the stomach, the first part of the duodenum, the jejunum, ileum, cecum, appendix, transverse colon, sigmoid colon, liver, spleen, and the remainder of the pancreas as intraperitoneal.

Although the heart is separated from the abdomen by the diaphragm, irritation of the heart musculature can cause pain in the upper abdomen, and is thus something the clinician should be aware of.²

Medical History and Physical Examination *Clinical Gestalt*

Astute clinicians know that one of their greatest tools is their clinical gestalt. The impression that a clinician gets on meeting an ill patient is difficult to describe, but it can be one of the greatest determining factors when making important decisions. Does the patient look sick or in pain? Is the patient motionless, or thrashing about? Is the patient's skin flushed or gray? For example, the 78-year-old patient discussed here may look pale or be diaphoretic. Either one of these findings should alert the clinician to a potentially serious problem.

Pain

The patient's description of pain can provide key details to the differential diagnosis. Although pain level may show no relationship to the severity of the disease process, the timing of pain onset can be a clue to the diagnosis. Abrupt pain will raise suspicion for rupture of a hollow organ or a vascular accident. Gradual-onset pain should prompt consideration of infection or inflammatory conditions. Pain location is also important. Pain can also be referred to and from the abdomen. Irritation of the diaphragm from above because of ischemia of the inferior cardiac wall may cause upper abdominal or epigastric pain. An inflamed gallbladder may irritate the diaphragm from below, causing referred pain to the right shoulder blade.

Associated Symptoms

A thorough review of any associated symptoms is also important:

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Table 1. Abdominopelvic Signs and Symptoms and Possible Causes					
Associated Sign or Symptom	Possible Clinical Significance				
Nausea with or without vomiting	Viral gastroenteritis, obstruction, appendicitis, food poisoning, mesenteric ischemia				
Diarrhea	Diverticulitis, infectious gastroenteritis, cholecystitis, food poisoning, mesenteric ischemia				
Urethral discharge	Chlamydia, gonorrhea, trichomonas (sexually transmitted infection)				
Urinary burning or urgency	Prostatitis, renal calculi, sexually transmitted infection				
Flank pain	Renal calculi				
Testicular pain	Renal calculi, testicular torsion, inguinal hernia				
Midline back pain	Aortic dissection				
Fever	Diverticulitis, cholecystitis, infectious gastroenteritis, pyelonephritis, appendicitis, mesenteric ischemia				
Tachycardia	Diverticulitis, cholecystitis, infectious gastroenteritis, pyelonephritis, appendicitis, gastrointestinal bleeding, mesenteric ischemia				
Hypotension	Aortic dissection, gastrointestinal bleeding, mesenteric ischemia				
Peripheral neuropathy	Aortic dissection				
Hypertension	Aortic dissection, any condition causing pain				

- Nausea and vomiting preceded by abdominal pain should alert the health-care provider to obstruction, especially if the patient has had prior abdominal surgeries. The presence of vomiting without diarrhea is less likely to indicate viral gastroenteritis than if both are present.
- Fever can indicate an infectious process and is also important when ruling out sepsis.^{3,4}
- Symptoms of volume depletion such as lightheadedness, dry mouth, and headache are especially important in conjunction with vomiting.
- Urinary symptoms such as burning with urination, urgency, frequency, and discharge should obviously alert the clinician to the possibility of a genitourinary infection. In men, special attention should be paid to the prostate and the testicles, and suspicion of a sexually transmitted infection should increase simply because urinary tract infections are not common in men.
- Associated unilateral back or flank pain should cause concern about the possibility of a renal stone.
- Abdominal pain described as tearing through to the back should cause the clinician to evaluate the patient for aortic dissection.
- Reluctance to eat or drink anything occurs in most cases of abdominal pain, but a decrease in pain with oral intake may indicate a peptic ulcer if the pain is in the epigastric region.

 Table 1 lists some associated findings and their possible clinical significance.

Past Medical History

A detailed medical history is always necessary. For example, a history of abdominal surgeries increases the risk of obstruction-related adhesions. Medications like opioids can slow gut motility. A history of weight loss and previous cancer is ominous for recurrence or metastasis.

General Physical Examination

Any patient who appears ill should be treated swiftly. Well-trained front-desk and ancillary staff members can help identify and triage acutely ill patients. The physical examination should include the following:

- Assessment of vital signs: Vital signs can play an important role in determining patient prognosis, but sometimes they can be misleading and thus should be taken into context of the complete examination. Although fever and tachycardia are certainly ominous, 15.6% of adults with acute appendicitis do not have a fever.⁵ Paradoxical bradycardia can easily delay the diagnosis of abdominal bleeding when free blood irritates the peritoneum, lowering the pulse rate rather than increasing it as expected.⁶
- Cardiopulmonary examination: A good cardiopulmonary examination can reveal complicating diagnoses like heart failure or provide information about diagnoses that present as

abdominal pain, like pneumonia or myocardial infarction.

- Abdominal examination:
 - The abdomen should be fully exposed and assessed for any distention, surgical scars, hernias, rashes, and so on.
 - Bowel sounds must be identified in all four quadrants, but they cannot be deemed absent until approximately 5 minutes pass without sound. Hyperactivity suggests gastroenteritis or early obstruction, whereas the absence of sound indicates late obstruction or ileus.
 - Percussion must be performed, and a normal abdomen should have varying degrees of dullness and tympany. Excess tympany represents free air or increased intraluminal gas. Dullness suggests bleeding or obstruction.
 - Palpation should be done from light to deep, with the clinician watching the patient's face while applying pressure to evaluate for tenderness. Guarding suggests significant pathology, such as bacterial infection. Rigidity is a strong indicator of peritonitis. There may be costovertebral angle tenderness if there are retroperitoneal processes such as renal calculi or pyelonephritis.

Diagnostic Signs

The special tests should be performed next. Because of space limitations, techniques are not described here, but there are plenty of reference works to consult.

- Rebound tenderness indicates peritoneal irritation and is most commonly used in the diagnostic evaluation of appendicitis. When the clinician releases pressure from palpation on the abdomen and the patient experiences this as more painful than the pressure itself, that is a positive finding.
- Rovsing sign indicates peritoneal irritation, and although it is nonspecific, it should be viewed as one of many tools in your toolbox. Its findings are positive when deep palpation on the left side of the abdomen leads to pain on the right side.
- Psoas sign indicates appendicitis that is irritating the psoas muscle posteriorly. It is performed most commonly by asking the patient to lift the right leg against resistance while the patient is prone.
- McBurney point is not an examination but is worth noting as the area midline between the umbilicus and the anterior superior iliac spine. Tenderness here suggests appendicitis.
- Murphy sign suggests inflammation of the gall-

bladder. Findings are positive when the patient's breathing arrests during deep palpation of the right upper quadrant. The diaphragm pushes the liver and gallbladder down against the fingertips, producing pain that causes the patient to stop breathing.

- The Markle sign is performed by firmly tapping on the heels of the supine patient, jarring the abdominal cavity enough to elicit pain if there is peritoneal inflammation.
- A prostate examination should at least be considered in all men with abdominal pain, as should testicular and hernia examinations. A judicious approach is to perform these examinations anytime an alternative diagnosis is not abundantly clear or if there is concern about the presence of pathology in the reproductive tract, as with urinary hesitancy, deep rectal pain, urethral discharge, testicular pain, or testicular swelling.
- A hernia check should also be considered if there is any concern about possible intestinal obstruction because of bowel incarceration.

Laboratory Testing

The complete blood cell (CBC) count is a commonly ordered but seldom useful test in the urgent care setting. For example, a study⁷ reported in 2006 showed that of 744 adults with appendicitis, only 64.8% had an elevated white blood cell (WBC) count. The study also showed that a WBC count greater than 12×10^9 /L had a positive predictive value for appendicitis of only 84.3%. A normal CBC count should never be used to rule out significant pathology.

The complete metabolic panel has a similar lack of usability in the urgent care. For instance, elevation of serum alanine aminotransferase and aspartate aminotransferase levels has only a 38% sensitivity for determining the presence of acute cholecystitis.⁸ A serum lipase test should be considered when pancreatitis is suspected. Although classically ordered in tandem with amylase, lipase testing has been shown to be more sensitive and specific to amylase in the setting of acute pancreatitis.⁹ The lipase test generally ordered in conjunction with computed tomography (CT) imaging if the patient's condition is otherwise stable. In the absence of urinary tract symptoms (burning with urination, hesitancy, etc.), positive findings on urinalysis (i.e., the presence of WBCs or blood in the urine) should never be used to make clinical decisions about a patient's condition and readiness for discharge, because both of these findings can result from

lower abdominal infection outside of the urinary tract, specifically peritonitis.

Diagnostic Imaging

Plain film radiography has largely been replaced by CT and ultrasonography for investigating abdominal pain. Bowel obstruction remains one of the few diagnoses that can be made on plain film, but studies show that it has limited sensitivity and specificity compared with CT: 77% versus 93% and 50% versus 100%, respectively.¹⁰

Ultrasonography has limited use as well, although it can be used to evaluate for splenic enlargement, testicular torsion, epididymitis, and cholecystitis. Focused assessment with sonography in trauma is being used in EDs to evaluate for abdominal free fluid but is not applicable to urgent care. Most importantly, ultrasonography is the imaging modality of choice in evaluation of testicular or inguinal pathology.

CT is the most widely used imaging modality in the investigation of acute abdominal pain, but it also has an increased cost and more radiation exposure for the patient. CT is 97% sensitive for diverticulitis and is the recommended study of choice for pancreatitis, mesenteric ischemia, dissecting aorta, and most other causes of abdominal pain, given its ability to look for severity and complications.¹¹

Diagnosis-Specific Treatment

The following possible causes of abdominal pain in men should always be considered. Listed for each one are treatment plans to think over once the medical history has been obtained, the physical examination has been performed, and the diagnostic work-up has been completed.

- Abdominal aortic aneurysm: Patients suspected of having an abdominal aortic aneurysm should always be transported to an ED via ambulance as soon as possible. The clinician and staff members should prepare for resuscitative measures while awaiting the ambulance. This includes obtaining large-bore (18-gauge or larger) intravenous access and starting oxygen therapy.
- Myocardial infarction: Myocardial infarction should be ruled out in any patient older than 40 years who presents with isolated epigastric pain with no other obvious cause. Given that a simple electrocardiogram is not sufficient to do this, these patients should be referred to an ED, where serial electrocardiograms and cardiac enzyme tests can be ordered.
- Viral gastroenteritis: The diagnosis of viral gas-

troenteritis should be made only after all other lifethreatening diagnoses are appropriately ruled out. It should never be made in the absence of associated diarrhea and/or vomiting. Vomiting alone should make the provider strongly question the diagnosis and continue to investigate, possibly for obstruction or appendicitis. At discharge, the patient should be given clear instructions regarding fluid intake and follow-up care.

- Bacterial gastroenteritis: Patients who present with both bloody diarrhea and abdominal pain should be transferred to an ED, where their condition can be stabilized if needed. This is especially true if vital signs show hemodynamic instability.
- Ischemic mesentery: The signs and symptoms of mesenteric ischemia can mimic other abdominal problems, with sudden onset of pain, pain that sometimes worsens with eating, and pain that is sometimes associated with bloody diarrhea. Clinicians should maintain a high index of suspicion when assessing patients older than 60 years or those who have risk factors such as atrial fibrillation, clotting disorders, or concurrent vasculitis. These patients need CT angiography and close monitoring in an ED.¹²
- Small and large bowel obstruction: If a bowel obstruction is confirmed via imaging, the patient should likely be transported to an ED.
- Appendicitis: Appendicitis is an acute surgical emergency. If the clinician strongly suspects that appendicitis is present, the patient should be transported to an ED without delay, prior to imaging studies. If suspicion is relatively low and the patient's pain level is tolerable, CT imaging with intravenous and oral contrast should be ordered immediately, and the patient should be instructed to proceed to an ED if the pain worsens.
- Diverticulitis: Although the standard of care calls for obtaining CT imaging of the abdomen, many patients who have had repeated episodes of diverticulitis are very aware of the symptomatology and can be treated with appropriate antibiotics, provided that they have no signs of critical illness and provided that appropriate follow-up care has been arranged. If the patient has never had diverticulitis, a CT scan with oral and intravenous contrast is warranted to confirm the diagnosis.
- Cholecystitis: In a patient in stable condition who does not need narcotic pain relief, the work-up for cholecystitis, which consists of right upper quadrant

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ultrasonography and metabolic laboratory testing, can be done on an outpatient basis. Once the diagnosis is made, however, this patient

should either be admitted to a hospital surgical service or transferred to an ED, depending on what local institutional guidelines specify.

- Pancreatitis: Acute pancreatitis can range from mild discomfort to exquisitely painful. If tolerable, a CT scan of the abdomen should be ordered along with a serum lipase test. If pancreatitis is confirmed, the patient should either be referred to an ED or directly admitted to a hospital, depending on what institutional guidelines specify.
- Prostatitis: Outside of urosepsis, acute bacterial prostatitis can be treated on an outpatient basis with appropriate follow-up with urgent care or, preferably, primary care. Treatment for 6 weeks with Bactrim DS (trimethoprim-sulfamethoxazole) or ciprofloxacin is needed to adequately penetrate the prostate.
- Inguinal hernia: An incarcerated hernia or strangulated inguinal hernia can cause pain that radiates into the abdomen, and both are surgical emergencies. Transfer the patient to an ED if the presence of such a hernia is strongly suspected or is confirmed by ultrasonography or CT.
- Peptic ulcer: Diagnosis of a peptic ulcer is typically made by endoscopy and treated with proton pump inhibitors with or without antibiotics, depending on the cause. A bleeding ulcer, however, can cause serious complications, including anemia and peritonitis from perforation. Patients in whom peptic ulcer disease is suspected but who show no evidence of complications should be referred for outpatient treatment to a gastroenterologist and treated with proton pump inhibitors. Signs of peritonitis, anemia on a CBC count, or signs of bleeding on a CT scan should result in transfer to an ED.
- Constipation: The diagnosis of constipation should never be made in the urgent care setting unless all other possible causes of pain have been ruled out. In such a case, give clear follow-up instructions need and document them well. Use of bulk-forming laxatives or polyethylene glycol is safe. Other osmotic laxatives must be prescribed with caution because of the risk of dehydration.

Case Dispensation

The patient described in the beginning of this article was

"The diagnosis of constipation should never be made in the urgent care setting unless all other possible causes of pain have been ruled out."

quickly triaged and roomed by a medical assistant. The physician assistant did a brief assessment of his appearance and vital signs. The patient was tachy-

cardic, and his blood pressure was elevated. The physician assistant used this information, along with the patient's description of the pain, to decide that the patient's condition was serious. The physician assistant did a thorough abdominal examination and noted a left-of-midline pulsatile mass above the umbilicus. The area was tender to palpation. He immediately arranged to transfer the patient to an ED for CT angiography, which revealed a dissecting aorta.

Conclusion

Not every diagnosis will be clear or lifesaving. More often than not, the patient will be sent home and will make a full recovery. The keys to avoiding critical errors and detecting potentially life-threatening problems are obtaining a thorough medical history and conducting a detailed physical examination, supplementing with the appropriate diagnostic laboratory tests and imaging. Part 2 of this article will discuss the abdomen and pelvis in women and delve more deeply into discharge care and instructions.

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HIPAA-Compliant Disposal of Office Equipment Containing Personal Health Information

Alan A. Ayers, MBA, MAcc

Urgent message: Urgent care centers must dispose of fully depreciated office equipment such as computers, copiers, fax machines, and telephones containing protected health information in a manner that complies with the Health Insurance Portability and Accountability Act. *How this column helps you: gives you guidelines for protecting your patients' privacy.*

Introduction

nince 2009, 42 million patients have been affected by privacy breaches entailing their protected health information ${\sf U}({\sf PHI}).^1$ Many of these breaches stem from the improper disposal of fully depreciated office equipment that may retain digital PHI in its memory. Realizing that disposing of this equipment poses risks of fines and damage to their practice's reputation, but not having a plan in place to dispose of equipment properly, many urgent care operators simply let old equipment accumulate in their storage closets. This practice not only creates unsightly clutter but introduces risk of theft and future breach or damage from fire or water, because this old equipment is rarely inventoried and tracked over time. Worse yet, some centers donate, sell, or repurpose equipment without taking the proper steps to remove its digital PHI. A better practice is for urgent care centers to devise a plan and dispose of equipment in a manner that complies with the Health Insurance Portability and Accountability Act (HIPAA) as soon as it is removed from service in the business.



Alan A. Ayers, MBA, MAcc, is Vice President of Strategic Initiatives for Practice Velocity and Practice Management Editor of the *Journal of Urgent Care Medicine*. "Many urgent care operators simply let old equipment accumulate in their storage closets. This practice not only creates unsightly clutter but also introduces risk of theft and future breach or damage from fire or water, because this old equipment is rarely inventoried and tracked over time."

The HIPAA Privacy Rule

HIPAA's Privacy Rule created national standards to protect individuals' medical records and other PHI. This rule from the U.S. Department of Health and Human Services (HHS) applies to health-care providers who conduct certain health-care transactions electronically. The Privacy Rule requires urgent care centers to implement appropriate safeguards to protect the privacy of PHI, including its disposal.²

In addition, the HIPAA Security Rule mandates that covered entities implement *policies and procedures* to address the final disposition of electronic PHI, as well as the hardware or electronic media upon which it is stored. In the same light, covered entities must implement procedures for removal of electronic PHI from electronic media before the media is made available for reuse.³ Finally, covered entities must provide their staff with *training* and then make sure staff members follow the disposal policies and procedures.⁴ HHS states that any staff member (including volunteers) who is involved in disposing of PHI—or who supervises those who dispose of PHI—must receive training on its proper disposal.⁵

Sidebar 1. What Not to Do When Disposing of Office Equipment Containing Personal Health Information

- Do not just delete the data and empty the recycle bin.
- Do not just delete the data and empty the recycle t
 Do not just format or reformat the hard drive.
- Do not just remove and reinstall Windows or another operating system.
- Do not throw the equipment in a dumpster.
- Do not donate the equipment to a charity like Goodwill or a school.
- Do not sell used equipment on eBay or Craigslist.
- Do not let employees take equipment home for personal use.

Sidebar 2. Sample Questions for HIPAA-Covered Entities to Consider When Disposing of Office Equipment Containing Personal Health Information

- Are the physical safeguards used to protect workstations that access electronic PHI documented in the center's policies and procedures?
- Are policies and procedures developed and implemented that govern the receipt and removal of hardware and electronic media that contain digital PHI, into and out of a facility, and the movement of these items within the facility?
- Do the policies and procedures identify the types of hardware and electronic media that must be tracked?
- Have all types of hardware and electronic media that must be tracked been identified, such as hard drives, magnetic tapes or disks, and optical disks or digital memory cards?

 HIPAA , Health Insurance Portability and Accountability Act; PHI , personal health information.

The PHI on a computer, copier, or cell phone can be disposed by destroying the entire piece of equipment or by destroying just the digital medical information stored on it and then reusing the equipment. The touchstone for these criteria is "reasonable safeguards," because the HHS does not provide precise parameters but instead states that appropriate safeguards are based on the specific circumstances of the covered entity.

Physical Safeguards for Disposal

The Security Rule defines physical safeguards as "physical measures, policies, and procedures to protect a covered entity's electronic information systems and related buildings and equipment, from natural and environmental hazards, and unauthorized intrusion." This standard covers the proper handling of electronic media, including receipt, removal, backup, storage,

reuse, disposal, and accountability. In this context, *electronic media* means "electronic storage media including memory devices in computers (hard drives) and any removable/ transportable digital memory medium, such as magnetic tape or disk, optical disk, or digital memory card. . . ." Any PHI that an urgent care center stores on a computer, computer system, or remote drive will be included in this definition.⁶ This includes laptop computers, computer workstations and servers, copiers, digital scanners, fax machines, digital cameras (including SD [secure digital] cards for data storage), cell phones, tablets, phone systems, laboratory and x-ray clinical equipment, and electronic media (disks, CDs, microfilm).

Disposal Methods

Although the Privacy Rule and the Security Rule do not require or endorse a particular disposal method, an urgent care center obviously cannot just abandon PHI or dispose of it in the trash (**Sidebar 1**), which may be accessed by unauthorized persons. The HHS advises covered entities such as urgent care centers to review their own circumstances to determine what steps are "reasonable to safeguard PHI through disposal,"⁶ and to develop and implement those policies and procedures necessary to carry out those steps (**Sidebar 2**).

However, it appears that in judging what is reasonable, HHS will look at whether the urgent care center thoroughly assessed the potential risks to patient privacy and took into account issues such as the form, type, and amount of PHI to be disposed. Adherence to the urgent care center's written policies, along with thorough documentation of the process and actions taken, should go a long way to satisfying the letter and spirit of the law contained in the HIPAA Privacy Rule and Security Rule. When covered entities dispose of any electronic media that contains electronic PHI, HHS guidelines are they should make sure it is "unusable and/or inaccessible."

Covered entities are encouraged to consider the steps "that other prudent health care and health information professionals are taking to protect patient privacy in connection with record disposal."⁷ This indicates that there is somewhat of an industry standard to be followed, or that HHS is leaving the details of appropriate disposal to the urgent care centers and other covered entities themselves to determine what is sufficient.

Depending on the circumstances, proper disposal methods for electronic PHI at an urgent care center may include (but are not limited to) clearing, purging, or destroying the media.

Clearing: This entails using software or hardware tools to overwrite digital media with non-PHI-sensitive data. Diskwiping software will completely erase the information, overwriting each individual sector on a hard drive multiple times to erase the data from the entire hard drive. Microsoft suggests KillDisk⁸ or DP WIPE,⁹ both of which are free and designed to meet government standards.¹⁰

- Purging: This is degaussing or exposing the media to a strong magnetic field to disrupt the recorded magnetic domains. Degaussing will totally erase the data.
- Destroying: Without a doubt, physically destroying a hard drive is by far the most effective method to ensure safe disposal of PHI. This can be via disintegration, pulverization, melting, incinerating, or shredding. One can smash a hard drive with a sledgehammer, drill holes into the drive, tear the drive apart and destroy the platters, or shred the drive—any of which will make the data inaccessible.¹¹

The most careful approach is to use more than one or all three of these procedures (clearing, purging, and destroying) when practical. If a drive is wiped, degaussed, and destroyed, recovering the data is near to impossible.¹¹

Disposal by a Business Associate

The HHS rules state that a covered entity is permitted (but is not required) to hire a contractor to appropriately dispose of its PHI. Under HIPAA, contractors who deal with PHI are considered business associates who must demonstrate their own compliance with the Privacy Rule and Security Rule. If an urgent care facility uses a contractor, it must sign a contract stating that the business associate, among other things, will appropriately safeguard the PHI through disposal.¹² For example, an urgent care owner may hire an outside vendor to pick up PHI on electronic media from its facility, purge or destroy the electronic media, and throw the deconstructed material in a landfill.

Fines and Penalties

Failing to implement reasonable safeguards to protect PHI when disposing of equipment can result in fines and penalties to the urgent care center. Discarding PHI without its destruction is a violation that qualifies for the highest level of HIPAA fines. Penalties can range from \$50,000 to \$1,500,000 per incident, and the fines are between \$10,000 and \$50,000 per record when the HHS determines that unsecure disposal of computers is the result of inadequate policies or training.¹³ In addition, state attorneys general have the authority for state-level enforcement of HIPAA and the Health Information Technology for Economic and Clinical Health (HITECH) Act, and these offices are allowed to keep any of the fines they assess.¹⁴

Conclusion

In effect, equipment with PHI may be thrown in a dumpster but only if the PHI has been made unreadable, indecipherable, and unreconstructable before being thrown in the trash. Your urgent care center must to take the steps necessary to create and implement the disposal policies, procedures, and training to comply with HIPAA regulations, and ensure that these safeguards are reasonable for your center's circumstances. "Adherence to the urgent care center's written policies, along with thorough documentation of the process and actions taken, should go a long way to satisfying the letter and spirit of the law contained in the HIPAA Privacy Rule and Security Rule."

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Case Report Midline Neck Mass

Urgent message: Swelling of the neck is a common problem seen in the urgent care setting. Etiologies range from infectious to lymphatic to malignant. If serious conditions are not diagnosed and treated in a timely manner, complications may lead to airway compromise, sepsis, or even death. *How this article helps you: alerts you to uncommon presentations of neck masses.*

DUC P. LE, MS-4, KAITLIN A. DOUGHERTY, MS-3, and SHAILENDRA SAXENA, MD, PhD

Introduction

Swelling in various areas of the neck is frequently seen in urgent care centers. Most such swelling can be separated into three main categories: inflammatory, neoplastic, and congenital, the most common being inflammatory. Lymphatic nodal inflammation usually presents as a neck mass and is most likely to be a congenital or neoplastic disorder, depending on the patient's age. Therefore, obtaining a careful medical history and performing a thorough physical examination are necessary to narrow the differential diagnosis and determine the appropriate work-up and treatment plan. We report a case of a common midline neck mass with an uncommon presentation in an older patient with a history of cigarette smoking.

Case Presentation

A 57-year-old woman presented to our urgent care clinic with dysphagia, dysarthria, vomiting, and a midline neck mass with progressive 2-week enlargement (**Figure** 1). The patient was visibly uncomfortable and said that no remedy she had tried had worked. After further questioning, the patient attributed the mass to an insect bite and said that she had not experienced any recent phys-



ical trauma. She reported that in the week prior to her presentation, she developed a fever spike that abated 2 days before she sought medical care. She said that swallowing had become more difficult and that her voice volume was markedly reduced, to a whisper.

The patient had a pertinent past medical history of hypertension, hyperlipidemia, chronic sinusitis, acute bronchitis, chronic hepatitis C, and multiple nonvenomous insect bites. Her known allergies were to latex, sulfonamides, and penicillin. She was also a 5-pack-year

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Ruptured thyroglossal duct cyst with exudate 2 days after presentation to an urgent care clinic.

smoker who had recently quit. She said that she did not know of any family history of cancer.

Physical Examination

The patient's vital signs at initial presentation were as follows:

- Temperature (temporal artery): 35.9°C (96.6°F)
- Blood pressure: 122/90 mm Hg
- Pulse: 60 beats/min
- Respiration rate: 14 breaths/min
- Body mass index: 32 kg/m²

The patient was oriented to person, place, and time. She appeared tired and uncomfortable but had no alarming changes to the cardiovascular, pulmonary, or gastrointestinal systems. Increased respiratory effort was noted, with use of accessory muscles and the tripod position. Findings on examination of the oral cavity and pharynx were negative for glandular swelling, erythema, or infection of mucous membranes. A neck examination revealed a 3.6-cm mass slightly off the midline of the neck and posterior to the hyoid bone (forcing the bone visibly anteriorly), thyroid cartilage, and cricoid cartilage. The mass was warm and tender to touch, but its mobility was difficult to assess because of the patient's discomfort. Also noted was an indurated lesion just to the right of midline that proved to be sensitive when palpated. The thyroid was palpated and appeared to be tender.

Differential Diagnosis and Work-Up

The differential diagnosis for a midline neck mass is rather long (**Table 1**), but given the patient's older age and smoking history, neoplastic causes were high on the differential and congenital causes were lower. However, given the acute presentation and recent fever, infection was most likely. Immediate blood work-up included the following:

- Complete blood count with differential
- Comprehensive metabolic panel
- Sedimentation rate
- Thyroid-stimulating hormone
- Free thyroxine (T₄)

able 1. Differential Diagnosis ^a for Midline Neck Mass				
Cause	Examples			
Inflammatory				
Viral	Epstein-Barr virus, mumps, human immunodeficiency virus			
Bacterial	Streptococcus, Staphylococcus, Actinomyces, Ludwig angina			
Insect, arthropod, parasite	Mosquito, spider, tick			
Neoplastic				
Benign	Lipoma, hemangioma, neuroma, fibroma, adenoma, paraganglioma, schwannoma			
Malignant	Metastatic, lymphoma, carcinoma, sarcoma			
Congenital	Thyroglossal duct cyst, branchial cleft cyst, cystic hygroma, vascular malformations, laryngocele, ranula, dermoid cyst, thymic cyst			
Traumatic	Hematoma, displaced cricoid cartilage or hyoid bone			
Other	Hyperthyroid, hypothyroid, Kimura disease, Castleman disease, sarcoidosis, pseudoaneurysm			
^a This is a partial list and is no	ot intended to be all-inclusive.			

"Most such swelling can be separated into three main categories: inflammatory, neoplastic, and congenital, the most common being inflammatory. Lymphatic nodal inflammation usually presents as a neck mass and is most likely to be a congenital or neoplastic disorder, depending on the patient's age."

The following laboratory test findings were significant: white blood cell count, 12.3 k/ μ L; sedimentation rate, 52 mm/h, and thyroid-stimulating hormone, 0.372 mIU/mL (milli–international units per milliliter). Same-day neck ultrasonography showed a non-specific 3.6 × 3.0 × 2.2–cm complex, irregular nodule with both cystic and solid features. Findings on a follow-up contrast-enhanced computed tomography (CT) scan of the neck were significant for a gas and fluid collection with no solid mass (**Figure 2**). The sub-mandibular, parotid, and thyroid glands appeared normal, without evidence of cervical adenopathy.

Diagnosis and Follow-Up

The diagnosis was determined to be an infected thyroglossal duct cyst (TGDC). Given the patient's respiratory distress, she was transferred with airway precautions for surgical incision and drainage. The cyst was drained, irrigated, and packed with gauze. Approximately 15 mL of purulent fluid was extracted and found to contain many gram-positive cocci clusters. The procedure quickly resolved her respiratory distress, dysphagia, and other airway symptoms. Subsequently, her antibiotic coverage was narrowed to doxycycline, 100 mg orally twice a day for 10 days. She was referred to an otolaryngologist for follow-up after her infection was controlled.

Discussion

Embryology

The thyroid gland begins development in the fourth week of gestation in the oral cavity. Midline epithelium on the floor of the pharynx begins to differentiate and migrate caudally to the lower neck. As the differentiated epithelium travels down the neck to its definitive position anterior to the upper trachea, it remains connected to the foramen cecum at the base of the tongue through the developing thyroglossal duct (TGD).¹ The epithelium then lobulates and becomes the bilobed thyroid gland. The thyroid gland continues to develop until around the eighth week of gestation. Normally, once the thyroid has fully developed, the TGD will regress, leaving a stand-alone gland.² However, in the case of a persistent TGD, the epithelium of the duct remains viable and the patient retains this connection to the pharynx. This duct can become infected or obstructed, causing the development of inflammation, pus, and

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Sagittal computed tomography contrast-enhanced image showing a 3.5-cm thyroglossal duct cyst with fluid and gas collection on the neck.

edema, culminating in a painful mass on the midline of the neck.

Clinical Presentation and Treatment

TGDC is the most common congenital neck cyst, with a prevalence of approximately 7% of the population.^{3,4} TGDC most commonly presents in children around the age of 6 years and affects both sexes equally.¹ Only in a minority of reported cases is the patient older than 20 years.¹ In 28% of reported cases, the patient is older than 50 years, and in 10%, older than 60 years.^{5–7} The typical presentation is a painless, mobile, and asymptomatic soft mass in the anterior midline of the neck near the hyoid bone. Our patient presented with a tender and symptomatic (dysphagia and hoarseness) midline mass, which is highly atypical for her age. Vertical mobility with protrusion of the tongue on swallowing is the most specific finding for a TGDC, but this was difficult to assess in our patient because of throat tenderness.8 Ultrasonography and CT are helpful to narrow the diagnosis.

The immediate concern in a patient with an enlarging

"TGDC is the most common congenital neck cyst, with a prevalence of approximately 7% of the population. TGDC most commonly presents in children around the age of 6 years and affects both sexes equally. Only in a minority of reported cases is the patient older than 20 years. In 28% of reported cases, the patient is older than 50 years, and in 10%, older than 60 years."

neck mass is airway compromise. Early and continuous assessment of airway patency is a critical part of the treatment plan. Initial supportive therapy may include bag-valve-mask ventilation or endotracheal intubation. If intubation is unsuccessful or not indicated, emergency cricothyrotomy and tracheostomy must be considered because clinical deterioration is unpredictable. Airway intervention will depend on the degree and location of the obstruction, as well as available expertise. In this case, the patient had increased respiratory effort because of extrinsic compression of the upper airways with continuous and spontaneous patency. After a thorough work-up and airway assessment, it was believed that bag-valve-mask ventilation, intubation, emergency cricothyrotomy, and tracheostomy were not indicated. Intervention with incision and drainage by a welltrained surgeon was chosen to relieve pressure on the airway and treat the underlying infected TGDC.

Infection may be a major complication in TGDC. A patent TGD connects to the oral cavity via the origin at the foramen cecum, predisposing the entire tract to infection by oral flora. Moreover, fistula formation through the skin, as in this case, also predisposes the patient to additional skin-flora infection. The most common bacteria responsible for TGDC infections include *Haemophilus influenzae, Staphylococcus aureus*, and *S. epi-dermidis*.⁵ Gram staining of our patient's cystic fluid revealed gram-positive cocci, consistent with *S. aureus* infection. Traditionally preoperative TGDC infections have been treated with antibiotics alone.^{4,9} Incision and drainage is thought to increase scarring and obscure tissue planes, making future definitive treatment of TGDC much more difficult. However, a recent study of

120 patients with infected TGDC showed that incision and drainage did not increase the postoperative risk of infection recurrence, and in fact was found to have the same recurrence rates as treatment with antibiotics alone.⁴ In actual-

"Although uncommonly associated with thyroglossal duct cyst, Ludwig angina is potentially fatal, having an 8% mortality rate, and thus must not be missed by practitioners."

ity, infection is seen in only a minority of pediatric patients with TGDC (40%), with few (12%) requiring incision and drainage.⁴ It is even more rare for adults with TGDC to present with symptoms and signs of neck infection or dysphagia,⁹ as seen in our case. The definitive treatment for TGDC is surgical excision using the Sistrunk procedure once local infection is controlled. The procedure consists of excision of the TGDC, a midline portion of the hyoid bone, the TGD tract, and a portion of the surrounding muscles of the tongue. However, even with this thorough procedure, TGDC can recur.

This case was unusual in that the patient reported that she could taste the exudate as the cyst was draining. The patient was noted to have a draining fistula just to the right of midline of the neck, which the patient initially attributed to an insect bite. These fistulas are common presentations in the draining of TGDCs, but drainage up the duct is rarely seen.¹⁰ Although the patient's report could not be corroborated with laboratory evidence, it is not unfeasible that the cyst could drain through both internal and external orifices, causing marked discomfort.

A dangerous complication of an infected TGDC that tracks to the oral cavity, as with this patient, is Ludwig angina. Ludwig angina is a severe cellulitis typically caused by a dental source of infection that invades the submandibular, sublingual, and submental spaces.¹¹ Patients with Ludwig angina may show signs of dysphagia, dehydration, dysphonia, and stridor.¹² The inflammation and edema in the neck can inflame nearby glands to the point of precipitating acute airway compromise that requires emergency airway control. Although uncommonly associated with TGDC, Ludwig angina is potentially fatal, having an 8% mortality rate, and thus must not be missed by practitioners.¹¹

The relationship between smoking and TGDC infection is currently unknown. Our patient had a 5-packyear history and developed the cyst later in life. Given that the majority of the patients with TGDC are children, it is reasonable that very little research on the effects of smoking on TGDC formation is available.

Conclusion

A midline neck mass in an adult patient requires a broad differential for appropriate work-up. Our patient presented with a TGDC at an uncommon age (57 years) and with an uncommon presentation. This case was

also complicated by a history of smoking and fistula formation with local infection. When there is a midline neck mass, the urgent care clinician should obtain a detailed medical history and conduct a thorough physical examination. Imaging modalities like ultrasonography and CT should also be used to differentiate between solid and cystic contents. A general laboratory work-up should be ordered to assess for infection. If appropriate, cystic fluid Gram stain and culture may also be warranted to identify the cause of infection and narrow the antibiotic coverage. Early antibiotic treatment may be sufficient in simple cases, but incision and drainage should be considered in more complicated cases and for patients at risk of airway compromise. Ludwig angina is a serious and potentially fatal complication of any infection tracking to the oral cavity and should be treated aggressively and with early airway interventions if necessary. Clinicians should also note that patients with a TGDC must ultimately be referred to a specialist for definitive surgical treatment and management. Regardless of treatment modality, patients must be informed of the potential for cyst recurrence, because it is clinically significant.

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Practice Management

The Rise of Medical Scribes: A Fit for Urgent Care?

Urgent message: As urgent care operators look for ways to speed patient flow and raise visit revenue, medical scribes may be a solution for increasing provider efficiency and improving documentation accuracy. *How this article helps you: provides information useful in deciding whether your center would benefit from hiring scribes.*

ALAN A. AYERS, MBA, MAcc

Introduction

rgent care is unique among health-care delivery models in its focus on providing quick turnaround. To get Upatients in and out of the center in less than an hour, urgent care operators focus on developing systems, processes, and training to speed patient flow. In emergency medicine and other specialties, medical scribesunlicensed individuals who enter information in an electronic medical record (EMR) under physician supervision-have been used to improve the efficiency of providers, enabling them to see more patients versus spending time on documentation. According to a recent article, 22 companies provide scribe services across the United States, and interest in medical scribes is being driven by perceived inefficiencies in EMRs, which detracts from time available to treat patients, which in turn translates to less income.¹ Although there are no statistics on the prevalence of scribes in urgent care, there are opportunities for urgent care to explore the concept, as explained in the following question-andanswer session with Cameron Cushman, vice president of marketing and sales for PhysAssist Scribes of Fort Worth. Texas.



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Interview

Alan Ayers: What are the responsibilities of a medical scribe?

Cameron Cushman: We've asked a lot of physicians, physician assistants, and nurse-practitioners what they like most about using a scribe, and overwhelmingly the response is that medical scribes alleviate the burden of

¹Gellert GA, Ramirez R, Webster L. The rise of the medical scribe industry: implications for the advancement of electronic health records. *JAMA*. 2015;313:1315–1316.

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documentation in the EMR, giving them more time for actual patient care. Medical scribes are specifically trained to document all aspects of patients' charts during a visit, including the history of present illness, the provider's assessment and plan, and the eventual diagnosis. More seasoned scribes can engage in advanced workflow activities, such as bringing in electrocardiograms for physician interpretation. After patient discharge, providers always review, approve, and sign charts, just as they would without a scribe. The bonus here is that they have spent little to no time writing in the chart.

Most medical scribes are pre-med students or plan to go on to study to become physician assistants, so they are eager to understand what they are documenting in EMRs and why. This job is an excellent way for them to be part of a medical treatment team while learning about medicine on the ground. Under guidelines established by the Joint Commission, scribes are not allowed to enter orders, touch patients, perform procedures, or interact with patients. They are trained to assist in medical charting but are to act like a fly on a wall in the patients' rooms. Once out of the room, they are encouraged to interact with their assigned provider to be sure that patient charts are recorded to the provider's specifications and that no relevant parts of the patient story are missed.

Ayers: How are scribes trained to be maximally effective with documentation and advanced workflow? *Cushman:* We have found that the best scribes are those aspiring to become medical providers. They are intelligent, astute, and motivated. They are there for the experience and the education, rather than to just pick up a paycheck. Scribing is tough work, often with long hours; they are on shift for the same amount of time as providers, anywhere between 6 and 12 hours. Thus, we are looking for individuals who are truly committed. We tend to hire pre-med students who are finishing their undergraduate degree, are in the process of applying to medical school or a physician assistant program, or are in a gap year.

Various scribe companies have their own proprietary methods of preparing scribes for EMR work in a medical facility. PhysAssist Scribes has created a unique training program called I Am Scribe University. We have been refining the curriculum since the company's inception, and we are currently using a serious of rigorous online courses, closely monitored by a mentor, as well as onthe-floor training in the specific EMR on which they will be working. In general, scribes go through a series of courses to learn and understand each section of a medical chart, including the structure of a proper SOAP (subjective, objective, assessment, and plan) note, how to craft a history of present illness, what physical findings are relevant to document, and what signs can be associated with common diagnoses (e.g., right upper quadrant pain could indicate cholecystitis).

Ayers: How do scribes work in EMRs?

Cushman: Scribes enter a patient room with the provider, write down the patient's medical history, and consequently complete the chart under the instruction of the medical provider. An attestation statement is included in the chart that states that the scribe filled out the chart on behalf of their assigned provider, but the chart is ultimately the provider's responsibility. Each provider must review and sign the chart prior to discharge. The scribe is trained to fully understand how to navigate the EMR used in the facility where they are working during their first weeks of on-the-floor work (we call this their residency phase). Scribes must be provided their own unique log-in for EMR use and in some cases are required to pass hospital-designated EMR courses.

Ayers: How are scribes typically used in emergencymedicine and primary-care settings?

Cushman: The most efficient use for scribes is to match them with providers who do the most documentation, which is not to say with the most senior or slowest-charting providers. Scribes can often show great value in a fast-track area, which is why they can be a great solution for urgent care facilities that can see many patients in a short amount of time. Scribes can help maximize this time, allowing the provider to move quickly from patient to patient without worry of falling behind on their charts.

Ayers: How prevalent are medical scribes in urgent care today?

Cushman: General industry estimates are around 10,000 medical scribes across the United States. PhysAssist Scribes employs a total of more than 3,000 scribes, so we can support this estimate. The majority of our scribes work at in-hospital emergency departments, but we are seeing their adoption at urgent care facilities in increasing numbers. We currently staff approximately 10 urgent care locations nationwide, with inquiries from similar facilities about scribe services growing exponentially.

Ayers: What is the benefit of using medical scribes in urgent care facilities?

Cushman: Simply stated, scribes give valuable time back to medical providers. This means more time for patient care, reduction in door-to-doctor time, and of course, an opportunity to get home at a reasonable hour without late-night charting left to finish. In our research, we have found some physicians spending a half to a third of their shift "Under guidelines established by the Joint Commission, scribes are not allowed to enter orders, touch patients, perform procedures, or interact with patients. They are trained to assist in medical charting but are to act like a fly on a wall in the patients' rooms."

will not yet be fully understood. Urgent care centers eventually reach an inflection point where they face a critical staffing decision as volumes increase. If single-provider coverage is no longer manageable and wait times are starting to creep up, questions may arise as to what the most costeffective solution is for managing patient flow. Sometimes the answer is another physician or an advanced practice pro-

documenting in the EMR. Removing this burden allows them to be a doctor again instead of a high-priced and highly trained clerical worker.

Some urgent care facilities are seeing success with cross-training existing employees (like an medical assistant) to perform scribe duties and similar tasks. This model enables these facilities to keep their employee numbers at the status quo while increasing efficiency for all tasks within the facility.

Ayers: Is there a measurable return on investment for using scribes in a medical facility?

Cushman: The value of scribes can be evaluated across many metrics, but the main driver should be what could boost a facility's bottom line. In general, scribes can help providers see more patients faster. They can help reduce wait times across all aspects of patient flow because documentation is eliminated as a rate-limiting step. Urgent care facilities often see high volumes of patients, so the addition of scribes can ease the documentation burden on providers, helping patients feel better faster.

Recently, PhysAssist Scribes conducted a 1-month pilot program at an urgent care facility in the Midwest. They added one scribe to their treatment team that represented 144 total hours of shifts that month. This resulted in an increase of 1.36 more patients seen per hour. This allowed them to treat 196 more patients during the month, which would equal more than 2300 additional patients seen in a year. These returns far outweighed the investment they made in our scribes.

Ayers: When should an urgent care facility consider adding scribes as a part of their treatment team?

Cushman: The addition of scribes probably does not make sense in the first year or two of the opening of a new facility, because patient volume and provider ratios

vider. We encourage the facility to evaluate the addition of a medical scribe to see if this can help reduce wait times and increase flow before tacking on the much higher cost of a more expensive provider. As the facility grows, leapfrogging providers with scribes can continue to help manage patient and provider satisfaction and increase revenue overall.

Conclusion

Medical scribes have been proven in emergencymedicine and specialist settings to speed up patient throughput, improve collections, and boost provider efficiency, affecting performance measures that are also relevant to urgent care, such as the following:

- Patient door-to-doctor time in center (initial wait)
- Patients who leave without being seen
- Patient total door-to-door time in center (length of stay)
- Undocumented services (which subsequently are unbilled)
- Patients seen per hour per provider (provider efficiency)

Given urgent care's focus on rapid turnaround, it is logical that scribes could add similar value in urgent care settings. Urgent care is different from other specialties, however, in that (1) a lower reimbursement per visit may make scribes cost prohibitive and (2) whereas EMRs in hospitals and multispecialty settings are inherently inefficient, urgent care systems focused on facilitating flow and improving provider efficiency should have an intuitive interface that enables physicians themselves to document charts quickly. Urgent care operators should evaluate the costs and benefits of scribes, relative to other options, to determine whether scribes make sense for their specific practice model.



ABSTRACTS IN URGENT CARE

- Guidelines for Treating Diarrheal Disease
- Length of Wait Defined for Testing for Cure of Gonorrhea
- Testing for Syphilis Is Beneficial for Individuals at High Risk
- Oral and Intravenous Routes for Antibiotics Are Equally as Effective in Community-Acquired Pneumonia

- Monitoring Programs Help Cut Down on Opioid Prescribing
- Infants' Fecal Microbiota May Affect Their Risk of Contracting Bronchiolitis
- Fluoroquinolone Antibiotics Can Have Disabling Adverse Effects
- New Guidelines Are Available for Non-Work-Related Prophylaxis for Human Immunodeficiency Virus

SEAN M. McNEELEY, MD

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

The American College of Gastroenterology Publishes New Guidelines for Treating Diarrheal Disease

Key point: New guidelines on treating diarrheal disease are available from the American College of Gastroenterology. Citation: Riddle MS, DuPont HL, Connor BA. ACG clinical guideline: diagnosis, treatment, and prevention of acute diarrheal infections in adults. *Am J Gastroenterol*. 2016;111: 602–622.

The authors of this report note that the Centers for Disease Control and Prevention reports 47.8 million cases of diarrhea a year. Acute diarrhea is defined as an increased number of loose stools for less than 14 days. The guidelines do not discuss *Clostridium difficile* infections. The article is comprehensive and a good read for all acute-care providers. Plus, Figure 1 has a good decision tree for diagnosis and treatment. Items applicable to the urgent care setting include the following:

Stool cultures should be obtained for more than 7 days



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

- Assays for fecal leukocytes are imprecise and not likely beneficial.
- Traveler's diarrhea should be treated for 3 days with quinolone, or for 5 days if the presence of *Shigella* is likely.
- Most community-acquired diarrhea is viral in origin.

Length of Wait Defined for Testing for Cure of Gonorrhea

Key point: Tests of cure with the new RNA and DNA probes must wait 1 week and 2 weeks, respectively.

Citation: Wind CM, Schim van der Loeff MF, Unemo M, et al. Test of cure for anogenital gonorrhoea using modern RNAbased and DNA-based nucleic acid amplification tests: a prospective cohort study. *Clin Infect Dis*. 2016;62:1348–1355.

Recently most laboratories have been using the newer DNA and RNA probes to detect gonorrhea. The authors of this report note that there is no recent research into how long to wait after treatment to test for cure. They performed a study in the Netherlands of both RNA and DNA probes of patients treated for gonorrhea and in need of testing for cure. Patients were tested daily for 28 days after treatment with 500 mg of ceftriaxone. RNA probe findings were negative at 7 days, and DNA probe findings were negative at 14 days. This is good information for urgent care providers to provide to patients. Even if you do not test them for cure, you must advise your patients about how long to wait to be tested by their primary-care provider.

Testing for Syphilis Is Beneficial for Individuals at High Risk

Key point: Consider testing for syphilis in high-risk patients. Citation: US Preventive Services Task Force (USPSTF). Screening for Syphilis Infection in Nonpregnant Adults and Adolescents: US Preventive Services Task Force Recommendation Statement. JAMA. 2016;315:2321–2327.

According to the author of this report, there were 20,000 cases of syphilis in the United States in 2015. The article discusses the U.S. Preventive Services Task Force recommendations on screening asymptomatic individuals at high risk for infection and concludes that there is minimal risk and significant benefit in screening asymptomatic patients at high risk for syphilis. High-risk patients include men who have sex with other men, people living with the human immunodeficiency virus, those with a history of incarceration, sex workers, those from specific locations, those of specific races or ethnicities, and men younger than 29 years. For urgent care providers, it makes sense to know who fits into high-risk groups in their area and to consider testing those who present for potentially related issues such as possible sexually transmitted infections. If your urgent care center does not perform these tests, at least recommending them to patients would be beneficial.

Oral and Intravenous Routes for Antibiotics Are Equally as Effective in Community-Acquired Pneumonia

Key point: Route of antibiotic administration does not seem important for fluoroquinolone in community-acquired pneumonia. Citation: Belforti RK, Lagu T, Haessler S, et al. Association between initial route of fluoroquinolone administration and outcomes in patients hospitalized for community-acquired pneumonia. *Clin Infect Dis.* 2016;63:1–9.

Many studies have shown that quinolones have equivalent bioavailability whether given orally or intravenously. This study retrospectively reviewed data on antibiotic administration route for 34,200 patients admitted to hospitals for community-acquired pneumonia; 2205 received antibiotics orally. Antibiotics administered included levofloxacin and moxifloxacin. The authors found no differences between outcomes for the two administration routes. Although this was an inpatient study, its findings do confirm similar outcomes for oral and intravenous quinolone in the treatment of pneumonia. For the urgent care provider, this is assurance that for patients who recover at home, oral treatment is not inferior to intravenous treatment.

Monitoring Programs Help Cut Down on Opioid Prescribing

Key point: Opioid-monitoring programs work.

Citation: Bao Y, Pan Y, Taylor A, et al. Prescription drug monitoring programs are associated with sustained reductions in opioid prescribing by physicians. *Health Aff (Millwood)*. 2016;35:1045–1051.

The authors of this article assessed prescription-monitoring systems and their effectiveness in lowering the number of opioid prescriptions. The data are from 24 U.S. states, from 2001 to 2010. The authors noted a 30% decrease in the number of schedule II opioids prescribed once the monitoring systems went live, and this effect was maintained for years 2 and 3. Considering that there are 19,000 opioid-related overdoses each year in the United States, such a decrease will likely translate into fewer negative health outcomes. Use of these systems when available is mandated by some states, and their use should be considered best practice in the remainder.

Infants' Fecal Microbiota May Affect Their Risk of Contracting Bronchiolitis

Key point: Infants with certain fecal microbiota may be more susceptible to bronchiolitis.

Citation: Hasegawa K, Linnemann RW, Mansbach JM, et al. The fecal microbiota profile and bronchiolitis in infants. *Pediatrics*. 2016;138:e20160218.

This case-control study compared the fecal microbiota of 40 infants hospitalized with bronchiolitis to 115 age-matched healthy infants. The authors found four stool patterns. The incidence of bronchiolitis was lowest in those with *Enterobacter*-or *Veillonella*-dominant stools, whereas those with *Bacteroides*-dominant stools were at significantly greater risk of bronchiolitis (odds ratio, 4.59). However, it still must be proven that changing the gut flora is necessary.

Fluoroquinolone Antibiotics Can Have Disabling Adverse Effects

Key point: Reconsider prescribing that fluoroquinolone. Citation: U.S. Food and Drug Administration. FDA Drug Safety Communication: FDA advises restricting fluoroquinolone antibiotic use for certain uncomplicated infections; warns about disabling side effects that can occur together. Silver Spring, MD: U.S. Food and Drug Administration [published 2016 May 12; updated 2016 June 7; cited 2016 August 7]. Available from: http://www.fda.gov/drugs/drugsafety/ ucm500143.htm

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ABSTRACTS IN URGENT CARE

"For urgent care providers, it makes sense to know who fits into high-risk groups in their area and to consider testing those who present for potentially related issues such as possible sexually transmitted infections. If your urgent care center does not perform these tests, at least recommending them to patients would be beneficial."

important and should not be missed. Considering the range of antibiotics that can be prescribed and the potential for spontaneous resolution of many of the illnesses seen in urgent care, careful consideration of antibiotic choice is yet again urged. Diagnoses included in the warning include sinusitis, bronchitis, and uncomplicated urinary tract infections. Serious adverse effects involving the tendons, muscles, joints, nerves, and central nervous system are the concern with fluoroquinolone.

New Guidelines Are Available for Non-Work-Related Prophylaxis for Human Immunodeficiency Virus

Key point: New guidelines are available for prophylaxis for exposure to human immunodeficiency virus outside of work. Citation: Announcement. Updated guidelines for antiretroviral postexposure prophylaxis after sexual, injection-drug use, or other nonoccupational exposure to HIV—United States, 2016. MMWR Morb Mortal Wkly Rep. 2016;65:458.

The new guidelines from the Centers for Disease Control and Prevention are focused on the prevention of infection with human immunodeficiency virus (HIV) in patients with a single nonoccupational exposure to blood, genital secretions, or other potentially infectious body fluids that might contain HIV. The entire document is 92 pages long. Highlights include the following:

- Postexposure prophylaxis (PEP) should be provided if the patient's HIV test findings are negative or if their HIV status is unavailable and exposure to a known HIV risk is significant.
- PEP after 72 hours of exposure is not recommended.

Treatment is a 28-day course of a three-drug regimen. Because these directives can change, it is recommended that health-care providers always check the latest information. For the urgent care provider, these guidelines are an excellent resource on how to treat patients with potential HIV exposure.



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CLINICAL CHALLENGE: CASE 1

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

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

Clavicular Pain in a 23-Year-Old



Case

A 23-year-old man presents to an urgent care with pain at the distal end of his left clavicle that began the previous day after he fell onto his left shoulder while mountain biking. His pain is constant and sharp and worse when moving his left arm and shoulder. He does not have fever, vomiting, chest pain, shortness of breath, or abdominal pain, and he has no head injury, no head or neck pain, and no history of previous illnesses.

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



Differential Diagnosis

- Clavicular fracture
- Shoulder strain
- Fracture of the humerus
- Dislocation of the humerus
- Pneumothorax

Physical Examination

On physical examination, his vital signs are as follows: temperature, 98.6°F (37°C); pulse rate, 112 beats/min; respiration rate, 24 breaths/min; blood pressure, 138/92 mm Hg; and oxygen saturation, 94% on room air. He is alert and oriented, is not in acute distress, and is breathing comfortably. He has no pain on palpation of the posterior cervical spine. He does have pain on palpation at the acromioclavicular joint and minimal swelling at the site, but there are no cuts or breaks in the skin.

Diagnosis

A chest x-ray is obtained (**Figure 2**) that shows an acromioclavicular joint injury. Note that the distal clavicle and acromion are not approximated, and there is approximately 50% vertical displacement, which means that this is a Rockwood type 3 injury. Rockwood classification is as follows:

- **Type 1:** The acromioclavicular joint is intact. Treatment can usually be done on an outpatient basis and is conservative.
- **Type 2:** There is slight vertical separation of the acromioclavicular joint. Treatment is conservative.
- Type 3: The acromioclavicular ligament is disrupted and the acromioclavicular joint is dislocated. The coracoclavicular distance for the injured joint is 25% to 100% greater than for the uninjured joint. Treatment for these injuries is controversial, but they are usually treated conservative initially.
- Type 4: The acromioclavicular joint is dislocated, the coracoclavicular ligaments are completely torn, the clavicle is

displaced into the trapezius, and the deltoid and trapezius are detached from the distal clavicle. Treatment for these injuries is surgical repair, and a lidocaine injection may decrease pain.

- **Type 5**: The coracoclavicular distance for the injured joint is 100% to 300% greater than for the uninjured joint. Treatment is the same as for type 4.
- Type 6: The acromioclavicular joint is dislocated, and the clavicle is in the subcoracoid position. Treatment is the same as for type 4.

Learnings

An acromioclavicular separation is typically caused by a traumatic fall onto the affected shoulder, such as during sports or motor vehicle accidents. The bony approximations superior to the humerus are the distal clavicle and acromion, and the medial approximation is the glenoid cavity. The acromion and clavicle are held together by strong ligaments, which may be stretched or torn with injury. The acromioclavicular ligament provides horizontal stability, whereas the coracoclavicular ligaments provide vertical stability. As with all shoulder injuries, adjacent structures may be damaged. A fracture may occur at the proximal humerus or glenoid cavity.

- The axillary nerve: This nerve runs below the humeral head and is the most commonly injured nerve in shoulder dislocations. It innervates the deltoid and teres minor muscles and skin over the lateral shoulder. Assess its function by checking sensation over the deltoid muscle.
- The axillary artery: Confirm the presence of the distal pulses.

What to Look For

When performing the physical examination, look for the following.
Mechanism of injury

- Location and exacerbation of pain
- Appearance
- Range of motion
 - Assess abduction and adduction.
 - Assess internal and external rotation.
- Neurovascular status
- The one-finger test: Findings on this test are positive when the practitioner asks the patient to point to the area of greatest pain and they point directly to the acromioclavicular joint.

X-ray views to be obtained are the anteroposterior view, the lateral view, and the axillary view, the latter of which is needed to diagnose Rockwood type 4 injuries.



Ten-Day Dry Cough in a 36-Year-Old Man



Case

A 36-year-old man presents to an urgent care center with a dry cough that he has had for the preceding 10 days. He has mild dyspnea. He has no rhinorrhea, fever, chest pain, blood in the urine or stool, or lower-extremity pain or swelling. He has no history of previous illnesses. He smokes cigarettes, occasionally drinks alcohol, and has a remote history of intravenous drug use.

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

THE RESOLUTION



Differential Diagnosis

- Pneumococcal pneumonia
- Pneumothorax
- Pulmonary mass
- Mediastinitis
- Aortic dissection

Physical Examination

On physical examination, his vital signs are as follows: temperature, 101.2°F (38.4°C); pulse rate, 108 beats/min; respiration rate, 24 breaths/min; blood pressure, 112/82 mm Hg; and oxygen saturation, 94% on room air. He is alert and oriented, is in no acute distress, and is breathing comfortably but slightly faster than normal. His lungs are clear to auscultation. His heart rate and rhythm are regular, and there is no murmur, rub, or gallop.

Diagnosis

A chest x-ray is obtained (**Figure 2**) that shows the fairly symmetric bilateral infiltrates of pneumocystis pneumonia (PCP). There is no evidence of a lobar infiltrate, pleural effusion, parapneumonic effusion, or pneumothorax.

Learnings

PCP is caused by a fungus-type organism called *Pneumocystis jiroveci*, which was previously called *Pneumocystis carinii* (a parasite). PCP commonly occurs in immunocompromised hosts, generally as a result of acquired immunodeficiency syndrome (AIDS), first recognized in men who have sex with men and in intravenous drug users in 1981. PCP is an AIDS-defining illness and may be the initial presentation of human immunodeficiency virus (HIV) or AIDS in patients who did not know they were HIV-positive. The incidence has decreased with the advent of anti-retroviral therapy and use of medications for prophylaxis. For

example, between 1994 and 2007, the incidence of opportunistic infections decreased from 89% to 13%.

Pneumocystis jiroveci, originally thought to be a protozoan, is actually a yeast-like fungus, spread through the air. It is ubiquitous; most children have antibodies for it at a young age, with 80% having evidence of exposure by the age of 13. The most common site of infection is pulmonary, but infection may occur in extrapulmonary sites as well, such as the skin, lymph nodes, spleen, and brain. PCP is most likely in patients with AIDS, as defined by a CD4 count of <200 cells/mm³, a CD4 percentage of <14%, or an AIDS-defining illness such as PCP, cerebral toxoplasmosis, esophageal candidiasis, cytomegalovirus retinitis, or mycobacterium avium complex.

Risk factors include immunosuppression, typically in patients with AIDS, though it may also occur in those with malignancies, those who have undergone organ transplantation, and in patients receiving immunosuppressive therapy. If there is concern for undiagnosed HIV or AIDS infection, inquire about risk factors such as these:

- High-risk behaviors such as men engaging in unprotected sex with men
- Intravenous drug use
- Hemophilia with blood transfusions
- Multiple sexual partners

Other factors with undiagnosed AIDS may include the following:

- Lymph node swelling
- Weight loss
- Skin rashes

What to Look For

Pay particular attention to temperature, tachypnea, tachycardia, and hypoxia. Findings on the lung examination may be normal or may reveal rales (crackles), rhonchi, or bronchial breath sounds. Evaluate the state of hydration through such findings as poor skin turgor, dry mucous membranes, and lack of urine output.

The following testing should be done.

- Chest x-rays
- Computed tomography scanning
- Oxygenation
- Laboratory tests:
 - HIV testing
 - CD4 count testing

All patients with a new diagnosis of PCP must be transferred to an emergency department for admission and bronchoscopy to confirm the diagnosis.



CODING Q&A

ICD-10-CM and ICD-10-PCS Changes Effective October 1, 2016

DAVID E. STERN, MD, CPC

Pecause it has been 4 years since the last annual update of the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) and because 2016 is the first year for the Centers for Medicare & Medicaid Services (CMS) to make updates to ICD-10-CM, CMS made many edits to the classification's code set. On October 1, 2016, International Classification of Diseases, 10th Revision, Procedure Coding System (ICD-10-PCS) will include 3651 new codes and 487 revised codes,¹ and ICD-10-CM will include 1943 new codes, 313 deletions, and 350 revised codes.²

Diabetes

Most of the changes associated with codes for diabetes involve adding laterality to ophthalmologic complications—code range **Eo8** through **E13** in the "Endocrine, Nutritional, and Metabolic Diseases" section. For example, **Eo8.321**, "Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema," will be deleted and replaced with these codes:

- **E08.3211:** "Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, right eye"
- **E08.3212:** "Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, left eye"
- **E08.3213:** "Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, bilateral"
- Eo8.3219: "Diabetes mellitus due to underlying condition with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye"



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

Hypercholesterolemia

Code **E78.0**, "Pure hypercholesterolemia," was deleted and replaced with two new codes:

- **E78.00:** "Pure hypercholesterolemia, unspecified"
- **E78.01:** "Familial hypercholesterolemia"

Carpel Tunnel Syndrome

A single code for specific mononeuropathies affecting bilateral limbs in the "Diseases of the Nervous System" section has also been added to code range **G56** through **G57**. Instead of coding both **G56.01** and **G56.02** when the diagnosis is carpel tunnel syndrome in the right and left upper limbs, you will use code **G56.03**, "Carpal tunnel syndrome, bilateral upper limbs."

Retinal Diseases and Disorders

The "Diseases of the Eye and Adnexa" section will also reflect changes to add laterality. A seventh digit has been added to code range **H34** through **H35** to allow even more specificity for retinal disorders. For example, code **H34.811**, "Central retinal vein occlusion, right eye," has been replaced with these codes:

- H34.8110: "Central retinal vein occlusion, right eye, with macular edema"
- **H34.8111:** "Central retinal vein occlusion, right eye, with retinal neovascularization"
- **H34.8112:** "Central retinal vein occlusion, right eye, stable"

Glaucoma

Laterality codes 1, 2, 3, and 9, representing right, left, bilateral, and unspecified, respectively, have taken the place of the sixth-digit X-placeholder for glaucoma codes in the H40.1 range. Currently, you can report H40.11X1, "Primary open-angle glaucoma, mild stage," but not the laterality. With the new codes, you will be able to report the laterality by using

¹https://www.cms.gov/Medicare/Coding/ICD10/index.html ²http://www.cdc.gov/nchs/icd/icd1ocm.htm

CODING Q&A

"Code range **M21.6** will no longer include the X-placeholder but will instead offer more specific coding options for other acquired deformities of the foot."

code **H40.1111**, "Primary open-angle glaucoma, right eye, mild state"; similarly, you will be able to add laterality to other codes in this range. Codes in this range with the **X**placeholder have been deleted to make way for the more specific codes.

Gastroenteritis and Colitis

Changes to the "Diseases of the Digestive System" section involve the deletion of code **K52.2**, "Allergic and dietetic gastroenteritis and colitis," and its replacement with codes **K52.831** through **K52.839** to report specificity for colitis:

- K52.831: "Collagenous colitis"
- **K52.832:** "Lymphocytic colitis"
- **K52.838:** "Other microscopic colitis"
- K52.839: "Microscopic colitis, unspecified"

Pancreatitis

Codes **K85.0** ("Idiopathic acute pancreatitis"), **K85.1** ("Biliary acute pancreatitis"), and **K85.2** ("Alcohol induced acute pancreatitis") were deleted and replaced with code range **K85.00** through **K85.92** to accommodate idiopathic, biliary, acute, with and without necrosis or infection, and alcohol-induced or drug-induced pancreatitis. These are some examples of the new codes:

- **K85.00:**"Idiopathic acute pancreatitis without necrosis or infection"
- **K85.01:** "Idiopathic acute pancreatitis with uninfected necrosis"
- K85.02: "Idiopathic acute pancreatitis with infected necrosis"
- K85.10: "Biliary acute pancreatitis without necrosis or infection"
- **K85.22:** "Alcohol induced acute pancreatitis with uninfected necrosis"
- K85.32: "Drug induced acute pancreatitis with infected necrosis"

Foot Deformities

Look for new codes in the "Musculoskeletal System and Connective Tissue" section as well. Code range **M21.6** will no longer include the **X**-placeholder but will instead offer more specific coding options for other acquired deformities of the foot, such as **M21.611**, "Bunion of right foot," and **M21.621**, "Bunionette of right foot."

Hand Joint Pain

Codes **M25.541** through **M25.549** have been added to allow reporting of joint pain in the hands:

- M25.541: "Pain in joints of right hand"
- M25.542: "Pain in joints of left hand"
- M25.549: "Pain in joints of unspecified hand"

Temporomandibular Joint Disorder

A sixth digit has been added to temporomandibular joint disorder codes in the range **M26.60** through **M26.63** to allow reporting of laterality. For example, you will now be able to specifically account for the disorder in the right jaw by reporting code **M26.601**, "Right temporomandibular joint disorder."

Cervical Disc Disorders

Sixth digits have also been added to codes in the range **M50.12** through **M50.92** to add the cervical level (e.g., C4–C5) specificity to cervical disc disorders. For example, you will find that code **N50.22**, "Other cervical disc displacement, mid-cervical region," has now replaced with the more specific codes:

- **M50.121:** "Cervical disc disorder at C4–C5 level with radiculopathy"
- **M50.122:** "Cervical disc disorder at C5–C6 level with radiculopathy"
- **M50.123:** "Cervical disc disorder at C6–C7 level with radiculopathy"

Femoral Fractures

Code range **M84.75** has been added to incorporate 59 new codes to use when specifying femoral fractures. You will see new codes for atypical fractures such as these:

- M84.750A: "Atypical femoral fracture, unspecified, initial encounter for fracture"
- M84.751A: "Incomplete atypical femoral fracture, right leg, initial encounter for fracture"
- M84.754A: "Complete transverse atypical femoral fracture, right leg, initial encounter for fracture"
- M84.757A: "Complete oblique atypical femoral fracture, right leg, initial encounter for fracture"

Ovaries and Fallopian Tubes

The "Genitourinary System" section also has some changes in code selections. Laterality will now be coded with the addition of a fifth-digit requirement for follicular cyst of the ovaries. Codes **N83.0** through **N83.52** have been deleted and replaced with 29 new codes in the range **N83.00** through **N83.529**. For example, **N83.0**, "Follicular cyst of ovary," has been replaced with the following:

- N83.00: "Follicular cyst of ovary, unspecified side"
- **N83.01**: "Follicular cyst of right ovary"
- N83.02: "Follicular cyst of left ovary"

CODING Q&A

"On October 1, 2016, International Classification of Diseases, 10th Revision, Procedure Coding System (ICD-10-PCS) will include 3651 new codes and 487 revised codes, and ICD-10-CM will include 1943 new codes, 313 deletions, and 350 revised codes."

National Institutes of Health Stroke Scale Scores and Glasgow Coma Scale Scores

The "Symptoms, Signs, and Abnormal Clinical and Laboratory Findings" section incorporates new codes **R29.700** through **R29.742** to report the National Institutes of Health Stroke Scale (NIHSS) scores, and codes **R40.2410** through **R40.2434** to report Glasgow coma scale scores at specific occurrences.

Skull Fractures

Laterality has been added to fracture and dislocation codes of the skull and head in code range **So2.1** through **So3.9**. The general codes have been deleted and replaced with 261 more specific codes. For example, code **So2.10XA**, "Unspecified fracture of base of skull, initial encounter," has been replaced with these codes:

- **So2.101A:** "Fracture of base of skull, right side, initial encounter for closed fracture"
- So2.102A: "Fracture of base of skull, left side, initial encounter for closed fracture"
- **So2.109A:** "Fracture of base of skull, unspecified side, initial encounter for closed fracture"

Foot Fractures

New sections of codes were added to report 20 new codes for other fractures of the foot beginning with code **S92.811A**, 125 new codes to report fractures of the calcaneus beginning with code **S99.001A**, 125 new codes to report fractures of the metatarsal beginning with code **S99.101A**, and 125 new codes to report fractures of the phalanx of the toe beginning with code **S99.201A**.

Note: CPT codes, descriptions, and other data only are © 2011, American Medical Association (AMA). All Rights Reserved (or such other date of publication of CPT). CPT is a trademark of the AMA.

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MARKET PLACE



DEVELOPING DATA

n July 2016, the *Journal of Urgent Care Medicine (JUCM*) concluded a count of unique urgent care centers across its print and digital subscription base. Estimates of urgent care centers can vary depending on whom you ask, because many different definitions are used to determine what constitutes an urgent care center. *JUCM* and the Urgent Care Association of America define urgent care centers as having all of the following characteristics:

- Walk-in or unscheduled care
- Expanded evening and weekend hours
- Radiology and substantial point-of-care diagnostic testing
- The ability to repair lacerations and provide intravenous fluids

As of this most current count, JUCM had 9503 unique clinics in its database. A breakout by state is detailed below.

NUMBER OF URGENT CARE CLINICS BY STATE (AS OF JULY 2016)

State	JUCM ^a	State	JUCM ^a	State	JUCM ^a
AK	27	КҮ	119	NY	450
AL	147	LA	129	ОН	301
AR	60	MA	120	ОК	135
AZ	276	MD	179	OR	137
СА	1080	ME	48	ΡΑ	293
СО	152	МІ	405	RI	40
СТ	118	MN	175	SC	154
DC	11	МО	187	SD	33
DE	28	MS	87	TN	229
FL	721	МТ	39	ТХ	671
GA	272	NC	372	UT	106
ні	36	ND	28	VA	228
IA	82	NE	63	VT	13
ID	75	NH	37	WA	223
IL	395	NJ	214	WI	208
IN	195	NM	77	WV	85
KS	75	NV	117	WY	29
^a JUCM unique urgen	t care clinics = 9503 in	all 50 states plus Wash	ington DC (print and d	igital editions).	

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