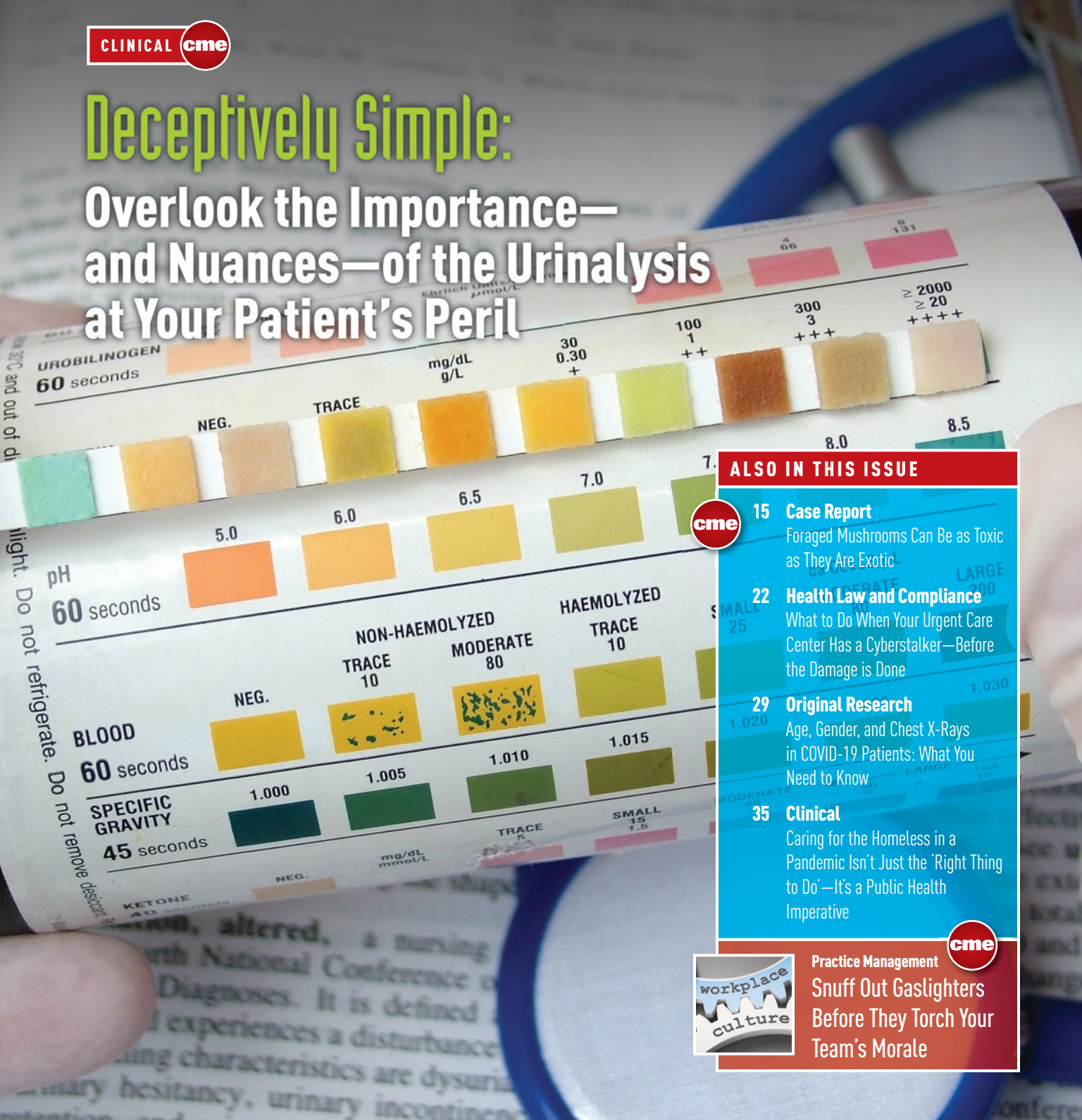


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Deceptively Simple: Overlook the Importance— and Nuances—of the Urinalysis at Your Patient's Peril



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Stories Speak Louder Than Statistics



After the vivid video of the wrongful death of George Floyd went viral in late May, millions of people of all races in America and abroad took to the streets to demonstrate in the name of solidarity and justice. This was all motivated by one man's story and, more broadly, was a potent remind of the power of story to capture our attention and provoke action.

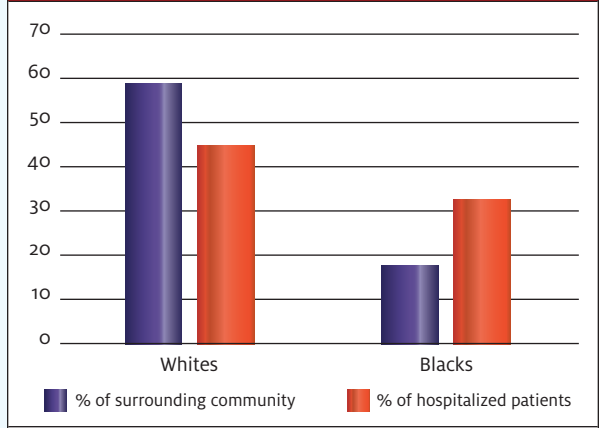
George Floyd was the most recent widely publicized victim of unwarranted police violence against people of color in the U.S. Within hours of his death, demonstrations began throughout country. But why did his death serve to galvanize the public so much more dramatically than did the deaths of Breonna Taylor, Laquan McDonald, and countless others who met similar brutality?

Consider President Kennedy's famous June 1963 speech later referred to as his "civil rights address." Until the speech, delivered over 2 years after taking office, he had remained relatively silent on the topic of civil rights. So what inspired Kennedy to finally speak up after ignoring the violence for so long? Many political historians site this as a response to the iconic images from the then-recent protests in Birmingham, AL which were seen by millions of Americans. The photographs and footage of encounters between law enforcement and demonstrators were dramatic in their imagery. The public saw German shepherd police dogs biting terrified protestors and firehoses turned against peaceful African-American teenagers.¹

Both the public response to the death of George Floyd and President Kennedy's hand being forced to finally acknowledge systemic racism due to the violence in Birmingham came after many years of similar tragedies which failed to provoke such responses.

The main distinction shared by both these cases was the explicitness with which the media-consuming public was shown the needless suffering of nonviolent and helpless African-Americans. We didn't hear about the details from the lips of a newscaster with meticulously combed hair. We saw children dropped to their knees with blasts of water and we watched Floyd get killed, face down on the street, gasping for

Disparities in Rates of COVID-19-Related Hospitalizations Between Black and White Patients*



*Based on 580 patients with lab-confirmed COVID-19 in 14 states, March 1–30, 2020
Data source: Centers for Disease Control and Prevention. Racial & ethnic minority groups. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html>. Accessed June 15, 2020.

air, with our own eyes. There was no ambiguity about who was wronged and who was perpetrating the harm. These were easy stories to follow and we were deeply affected by them.

Compare this with the current coronavirus pandemic. Disparities in outcomes based on race among those afflicted with the virus are stark and undeniable. African-Americans and other underrepresented minorities have long fared worse in many measures of health such as rates of diabetes, cardiovascular disease, and obesity. And, tragically, this has also proven true in the case of mortality associated with COVID-19.

African-Americans have comprised 40% of the deaths related to the virus in the state of Michigan, but only make up 14% of the population, for example.² Similarly, in Chicago, 70% of COVID-19 related deaths have occurred in blacks, who represent just 30% of the city's residents. In New York, the city

“As healthcare providers, we have an obligation to advocate for the health of our patients, much of which is influenced by persistent racial inequality and its effects on social determinants of health.”

most severely afflicted by the virus, both blacks and Hispanics have faced a disproportionately high burden of mortality.³

These differences in outcomes cannot conceivably be explained by biological factors. Rather, it has become clear that such discrepancies are related to the implications of race as a social construct. Race, in turn, is highly correlated with factors that have been dubbed the *social determinants of health* (SDOH)—eg, food insecurity, poverty, unstable housing, access to healthcare and education, and neighborhood environment.⁴

Meanwhile, obesity, diabetes, and heart disease—all of which underrepresented minorities experience in disproportionate numbers due to SDOH—have been identified as risk factors for increased COVID-19-related mortality.⁵ Furthermore, chronic stress has been repeatedly demonstrated to be immunosuppressive.⁶ And stress is understandably a natural byproduct of the day-to-day experience of for many blacks and Hispanics in America.

If you have been following news of the pandemic, this is undoubtedly not the first time you’ve heard of these dramatic differences in outcomes. Both the medical literature and popular press are replete with reports of COVID-19 ravaging Hispanic and African-American communities. Yet neither the lay public nor the medical community at large has reacted to this with the same sort of rallying cry as with the case of George Floyd.

How did injustice leading to the loss of one man’s life inspire so many more to take action than the coinciding deaths of many thousands, largely due to the same systemic injustice?

The difference lies in how the narratives are presented—story vs data. Stories grab our attention and compel us to act. Data do not.

As clinicians, we make decisions about how to evaluate and treat our patients based on rigorously analyzed (and often meta-analyzed) data. However, because we are in the habit of thinking in terms of sensitivities and specificities, all too often we resort to attempting to persuade others using data-driven arguments. And while this can occasionally be appropriate—when discussing treatment options with a particularly analytically minded patient, for instance—if we seek to inspire any sort of behavior change, story is a much more effective tool. In fact, that’s one of the most fundamental attributes of a story: it

evokes and demands an immediate response.

As human beings, we are wired for story. We think in story. We understand the world through story. We are moved by story. Neuroscientists have long discussed the duality of the rational and emotional brain; however, it is almost exclusively the emotional brain which compels us to act. And story is a direct conduit to these emotional centers of our brains.

This notion is simple yet powerful. And, as healthcare providers, we have an obligation to advocate for the health of our patients, much of which is influenced by persistent racial inequality and its effects on the SDOH.

If we are to serve as allies for those facing health disparities due to race, speaking in statistics is unlikely to capture more than momentary attention, much less inspire action. However, the more we can share individual patients’ stories (in a HIPAA-compliant fashion, obviously), the more we can evoke a passion among those who will listen to speak out and take a stand against this pernicious, but sadly less cinematic injustice.

The more vivid the account, the more powerful the effect will be. People will take notice. More allies will emerge. And, in the process of learning more of these stories, we may find we are inspired ourselves to go further for such causes in new and surprising ways. Because, after all, we are humans first and we cannot help but respond to a powerful story.

If you have a story, clinical or otherwise, about the effects of racial injustice on a patient you have served, please consider submitting the narrative to JUCM. (Submission instructions can be found at <https://jucm.scholasticahq.com/for-authors>.) We would love to share it with the urgent care community. ■



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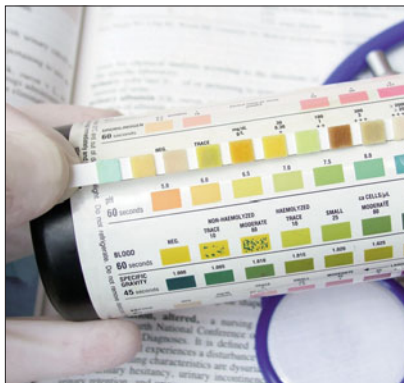


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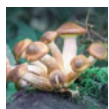
11 Urinalysis: A Simple Test with Complicated Interpretation

Urgent care centers perform urinalyses all the time—so often, perhaps, that the critical value of getting them right can be overlooked. An evidence-based approach to when it's appropriate to perform one, and how to ensure proper procedures are followed, is essential.

Douglas W. Wallace, MD; Blakeley Hudson, MD; and Matthew Delaney, MD

CASE REPORT

15 Foraged Mushroom Toxicity Presenting to Urgent Care with Acute Kidney Injury



The great outdoors may offer a great chance to experience nature and escape the stresses we're all living with these days. However, thinking you know more than you do about what you find there—especially if you're going to eat some of those things—can be life-threatening. *Michele L. Stowe, PA-C, MPAS and Joshua Russell, MD, MSc, FAAEM, FACEP*

PRACTICE MANAGEMENT

18 That's Not What Happened! How to Deal with Gaslighting in the Workplace



Toxicity in the urgent care workplace can take many forms. Recognizing malicious attempts to disrupt or demoralize a coworker—and knowing what to do about it—can save team unity and maybe even your business. *Alan Ayers, MBA, MAcc*

HEALTH LAW AND COMPLIANCE

22 What Are the Legal Remedies to Stop Cyberstalking of Your Urgent Care Center?



Despite your team's best efforts, some patients will leave your urgent care center unhappy with their experience. When they use social media to launch an attack on your business, you have precious little time to defend yourself. *Alan Ayers, MBA, MAcc*

ORIGINAL RESEARCH

29 Chest X-Ray Findings Among Urgent Care Patients with COVID-19 Are not Affected by Patient Age or Gender: A Retrospective Cohort Study of 636 Ambulatory Patients



Chest x-rays can tell us a lot about patients fighting COVID-19. But are there key differences you should be vigilant for based on how old a patient is, or their sex? *Joshua Russell, MD, MSc, FACEP; Ana Echenique, MD, DABR; Steven Daugherty, PhD; and Michael Weinstock, MD*

CLINICAL

35 Caring for the Homeless During the COVID-19 Pandemic



If you think it's difficult for "typical" patients to keep up with the best ways to keep themselves and their families safe during the COVID-19 pandemic, imagine the challenges faced by those who are experiencing homelessness. *Janet M. Williams, MD, FACP*

AHEAD IN JUCM

Chest pain is a real attention-grabber in the urgent care center. Appropriately so, too, given the vast array of sources to consider (and, hopefully, rule out) on a moment's notice. So, *JUCM* will present an issue rich with content related to various aspects of assessing and determining possible causes of chest pain in the fall. We'll also continue making good on our commitment to bring you exclusive, urgent care-specific research. Watch for these and more after we resume publication in September.

DEPARTMENTS

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JUCM CONTRIBUTORS

The urinalysis is a common test in urgent care centers. However, its ubiquity should not be mistaken for foolproof. Proper administration and analysis require attention to detail and a strong sense of the nuances involved.

That's the key message in our cover article this month. In Urinalysis: A Simple Test with Complicated Interpretation (page 11), authors

Douglas W. Wallace, MD; Blakeley Hudson, MD; and Matthew Delaney, MD explain that an evidence-based approach is essential to correct interpretation.



Dr. Wallace is an assistant professor in the Department of Emergency Medicine at the University of Alabama at Birmingham, where Dr. Hudson is a resident physician in the Department of Emergency Medicine and Dr. Delaney is an associate professor and assistant residency director in that department.

Another fairly common diagnostic tool—the chest x-ray—has also been getting a closer look over the past few months, due to its use in patients suspected of having, or who have already been diagnosed with, COVID-19. Chest X-Ray Findings Among Urgent Care Patients with COVID-19 Are not Affected by Patient Age or Gender: A Retrospective Cohort Study of 636 Ambulatory Patients (page 29) is the second original, urgent care-based research article on COVID-19 to be published exclusively by *JUCM*. In it, authors **Joshua Russell, MD, MSc, FACEP; Ana Echenique, MD, DABR; Steven Daugherty, PhD; and Michael Weinstock, MD** seek to determine what role (if any) age and gender play in abnormalities in chest x-rays among infected patients.



Dr. Russell holds positions with the University of Chicago Medical Center and Legacy/GoHealth Urgent Care in Vancouver, WA and is editor-in-chief of *JUCM*. Dr. Echenique is clinical director, quality management, Experity Teleradiology. Dr. Daugherty is general partner, Profile Partners. Dr. Weinstock is professor of emergency medicine, adjunct in the Department of Emergency Medicine, Wexner Medical Center at The Ohio State University; and senior editor, clinical, *JUCM*.

Looking at how devastating the pandemic has been among otherwise healthy, well-sheltered individuals, it isn't hard to imagine that it's far worse for homeless Americans. **Janet M. Williams, MD, FACEP** tackles this tough issue in an article entitled Caring for the Homeless During the COVID-19 Pandemic (page 35). Dr.



Williams is medical director, Rochester Regional Health Immediate Care; clinical faculty, Rochester Institute of Technology; and a member of the *JUCM* Editorial Board.

The pandemic has led many people to seek solace in nature. In Foraged Mushroom Toxicity Presenting to Urgent Care with Acute Kidney Injury (page 15), **Michele L. Stowe, PA-C, MPAS** and Dr. Russell note that mushroom toxicity can result in irreversible organ damage and, in certain cases, death if not recognized quickly. Unfortunately, diagnosis can be made more difficult by the fact that symptoms can be nonspecific or similar to those of relatively benign illness, too.



Metaphorical "toxicity" can also exist in the urgent care workplace, of course. As **Alan Ayers, MBA, MAcc** explains in *That's Not What Happened! How to Deal with Gaslighting in the Workplace*, "gaslighting" can demoralize workers (or even the whole team), tainting not just the culture but also the bottom line. Read the article, starting on page 18, to learn the signs—and what to do about this issue.

The consequences can be equally dire and the challenges just as tough when conflicts occur between an urgent care center and a patient. If the patient takes the battle to the urgent care center online—one form of cyberstalking—there are steps you can take to minimize the damage to your business's reputation. What Are the Legal Remedies to Stop Cyberstalking of Your Urgent Care Center? starts on page 22.

This article was also contributed by Mr. Ayers, who is chief executive officer of Velocity Urgent Care and is practice management editor for *The Journal of Urgent Care Medicine*.

This month's Abstracts in Urgent Care reviews (page 25) feature keen insights into two broad topics you've read about in *JUCM* recently—COVID-19 and point-of-care ultrasound (POCUS).

Yijung Russell, MD worked with **Lauren Bulgarelli, MD**, and **Chelsea M. Burgin, MD, FAAFP** to bring you fresh views on herd immunity and COVID-19, POCUS in vision loss and in children with respiratory illness, as well as primary care visit trends and treating minor musculoskeletal pain. Dr. Russell practices in the Department of Emergency Medicine at Amit Health Resurrection Medical Center in Chicago; Dr. Bulgarelli is with AMITA Health Resurrection Medical Center; Dr. Burgin is the medical director of Boiling Springs MD360 Convenient Care and Director of MD360 Ultrasound, Prisma Health and Assistant Clinical Professor, University of South Carolina School of Medicine Greenville.

Finally, coding authority **Monte Sandler** clears up any lingering (and understandable) confusion over how to code for various COVID-19 testing situations. His column starts on page 47. Mr. Sandler is executive vice president, revenue cycle management, for Experity. ■

Transitions, Transformations, and Trees

■ LAUREL STOIMENOFF, PT, CHC

“A society grows great when old men plant trees in whose shade they know they shall never sit.”—Greek proverb

Transitions

Earlier this year I notified the UCA Board of Directors of my desire to retire by year end. As long as I live, I don’t think I will ever completely leave this organization, but I truly believe the timing is right to do so as your CEO.

Just as so many urgent care organizations have been deeply impacted by the pandemic, so has UCA. And the recovery will be a protracted one requiring skilled and steady leadership over years vs months. As you are likely aware by now, Lou Ellen Horwitz has agreed to step into the role of CEO, and I am excited to move into a part-time position as the Executive Director of Quality & Innovation with some defined deliverables that should be accomplished throughout the coming months.

Transformations

Just as healthcare will emerge anew from this watershed moment in its evolution, so shall UCA. Lou Ellen’s skill set is perfect to shepherd the organization through what will be a transformative period while collaborating with your board to reshape the association such that it best supports the success of our members. I move into my next role knowing that you and UCA are in highly capable hands.

I Hope I Have Planted Trees

The proverb above is both deep and meaningful to me. It is apparent that our founders and so many of the colleagues I have met along the way are committed to creating a great society, and I aspired to follow their lead. It is about finding a bal-

“This is not good-bye. It is merely passing the baton to a new leader who I know is deeply committed to ensuring a bright future for urgent care.”

ance between those things that have an immediate impact while never losing sight of the future, even though they may not be a part of it.

Another Transition—Cindi Lang, RN, MS

It would be difficult to find someone as accomplished at this balance as Cindi Lang, who stepped aside as UCA’s Certification and Accreditation Advisor on July 1. UCA was built on the backs of committed and passionate volunteers whose sweat equity in the organization cannot be repaid. Cindi Lang is one of those volunteers who persevered year after year, giving us her time and her talent. I am pleased that she will remain an active member of several of our accreditation committees, and equally pleased that her former position will be assumed by an active committee member, Tracy Patterson, MBA, MHSA, CHC—again, an amazing successor. You shall benefit from the shade Cindi created for years to come. Thank you, Cindi, for graciously committing to playing an ongoing part—while also easing into enjoying the fruit of a long and impressive career.

This Is Not Good-Bye

It has truly been a privilege to serve UCA in many capacities. I have met so many along this UCA journey whose friendships I can only hope will endure. This is not good-bye. It is merely passing the baton to a new leader who I know is deeply committed to ensuring a bright future for urgent care.

As I walk up the metaphorical 18th fairway of life, I hope there are saplings—some of which I played a part in planting. What you do is simply too important, and I need to know it will be there for generations to come. ■



Laurel Stoimenoff, PT, CHC is the outgoing CEO of the Urgent Care Association.

Hello Again

■ LOU ELLEN HORWITZ, MA

When I left UCA(OA) in 2012 and started working in urgent care myself I had a realization: I didn't really know much about urgent care. I had spent over 6 years creating conferences and events, programs and affiliate groups, talking to the media about us and talking to members every day—but I didn't truly understand urgent care until I was in your shoes.

Now I Understand

I didn't know that feeling of standing in a clinic on grand opening day praying someone will show up. I didn't know how to use visit volume trends to create a staffing matrix. I didn't know how hard it is to find, train, engage, and retain staff in urgent care. I didn't know how great it felt to get that five-star Google review. I didn't know how it felt to sit with potential investors and try to sell the company you cannot possibly be objective about. Now I do.

I didn't know it at the time or recognize it until very recently, but the day I left was the day I began preparing to return to UCA.

Thank You

Before I thank Laurel Stoimenoff, I want to thank all of the colleagues, coworkers, and friends I've made in urgent care. You've taught me how and why we do what we do, how tough it is, and how much fun it can be. I've loved learning with and from you, and am counting on you to be part of our future. Hug emoji times 10,000.

Laurel and I have shared a love affair with UCA, and I cannot thank her enough for what she did as CEO and in so many other capacities to open doors that had been closed to us. She built relationships and inspired partnerships that we will continue to benefit from for many years. She created and grew programs that move all of us forward and I'm thankful she will use the next few months to lead us in quality and innovation. Laurel, on behalf of the entire membership, we appreciate you more than we can ever adequately express.



Lou Ellen Horwitz, MA is the incoming chief executive officer of the Urgent Care Association.

"The people of urgent care are mavericks at heart. I love that about us.... However, the problem with mavericks is that we like to go our own way—which makes it hard for us to come together. But we have to come together."

And Yet...

For all of the things I do understand now that I didn't understand in 2012, one thing still puzzles me. Actually, it doesn't puzzle me, it makes me angry. How is it that urgent care can still be overlooked on a national level and by many states after all these years of work? Is it simply that effecting change on such a scale takes a very long time—especially when there is resistance from the status quo? I have thought about this a lot lately.

Are We in Our Own Way?

The people of urgent care are mavericks at heart. I love that about us. We looked at traditional healthcare and thought we had a better way—so we built it. Innovation doesn't scare us—we embrace it. Constant change is just another day for us. UCA was founded by maverick thinking. However, the *problem* with mavericks is that we *do* like to go our own way—which makes it hard for us to come together like conformists can.

I don't want to change our DNA—but we have to change something if we want to have a national impact. We may not like it, but we do need each other. It's not enough to just be good at what we do. It's not enough for us to unite 4 days a year and compete the other 361. It's not enough.

We all want this alliance. We see every day how critical urgent care is in our communities. We can be an "alliance of mavericks" if we must, but we have to come together, and in greater numbers. We will all be the better for it, and so will the world.

Thanks for having me back. Lots to do. Let's keep in touch. ■

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Urinalysis: A Simple Test with Complicated Interpretation

Urgent message: The urinalysis is a ubiquitous test in urgent care settings, though there is nuance and complexity in its interpretation. An evidence-based approach is essential to assuring correct interpretation and decision-making.

DOUGLAS W. WALLACE, MD, BLAKELEY HUDSON, MD, and MATTHEW DELANEY, MD

Introduction

The urinalysis (UA) is one of the most commonly ordered tests across a variety of practice settings. Despite its ubiquity, interpreting a UA can be complicated and nuanced. Given the variable treatment and disposition decisions that we make based on its results, it is crucial to employ an evidence-based approach to UA interpretation.

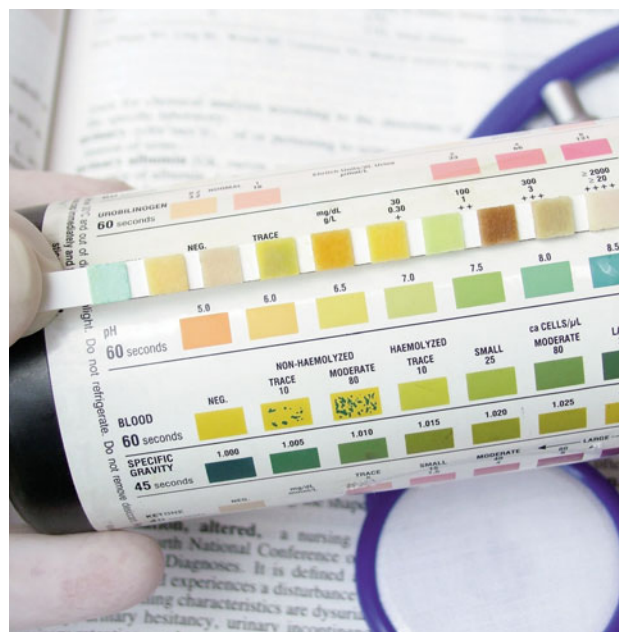
What Are the Components of a Urinalysis?

A urine sample can be evaluated both qualitatively (gross appearance and dipstick urinalysis) and quantitatively (microscopic urinalysis). Additional studies on the urine include urine culture, urine PCR, and various urinary antigen studies. Our focus here will be on interpretation of the urine dipstick, urine microscopy, urine culture, and subsequent decision making.

Where to Begin?

The first step is to obtain an adequate sample, with minimal contamination. This is ideally achieved with a clean catch, midstream sample from the first urine of the day. The reality of sample collection is never this ideal, but here are some tips to improve the quality of a urine sample.

1. Locally disinfect the urethral meatus with a sterile swab
 2. Retract the labia in women or the foreskin in men
 3. Collect a sample midstream
- Of these listed measures, obtaining a midstream sample



has been shown to be the most helpful in reducing contamination. Cleaning of the meatus and retraction of adjacent structures are important but less helpful overall.¹

How Do I Approach Interpretation of a Dipstick Urinalysis?

Blood

The urine dipstick test represents information obtained from a qualitative chemical reaction performed on the

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urine sample. *Blood* is the first dipstick assay. It nonspecifically detects red blood cells, free heme, and myoglobin molecules. Positive blood on a dipstick can thus represent hematuria, hemolysis, or myoglobinuria. These etiologies can be differentiated by noting the actual number of RBCs per high power field on microscopic urinalysis.

In the setting of rhabdomyolysis, you might see a positive dipstick test for RBCs (3+ blood), but a subsequent microscopic analysis of the sample will reveal few or no RBCs as myoglobin in the urine causes a false positive for the blood assay. If your facility lacks the capability for quantitative urine microscopy, the clinical presentation of a patient with 3+ blood becomes vital in your decision making. A patient who complains of aching muscles and dark urine after vigorous exercise may have rhabdomyolysis, whereas a patient with a past medical history of nephrolithiasis presenting with a familiar onset of unilateral flank pain and emesis may have acute ureterolithiasis. The discernment will fall to your history and physical and clinical gestalt. Once hematuria is confirmed, the next step is to consider its origin. Blood in the urine can be caused by many pathologies, including a urinary tract infection (UTI), malignancy, urolithiasis, traumatic injury, or an underlying inflammatory process such as glomerulonephritis. Despite it being nonspecific, the blood assay does have a high negative predictive value, and if negative, essentially rules out significant hematuria.²

Infection

Leukocyte esterase (LE) measures white blood cell byproducts and is a surrogate marker for the presence of white blood cells (WBCs). Leukocyte esterase is fairly sensitive for the presence of a UTI but not highly specific. WBCs in the urine can be reflective of any inflammatory process in the urinary tract or even represent contamination from the adjacent genitalia in a female patient.

Nitrite is an indicator of nitrite reductase, an enzyme present in organisms of the genus *Enterobacteriaceae* (*E coli*, *Proteus*, *Salmonella*, *Shigella*, and *Yersinia*); many of which are frequent uropathogens. Positive nitrites are in turn fairly specific for bacteriuria but not very sensitive, as there are also a number of bacteria that do not produce nitrites (notably enterococcal and staphylococcal species).

The LE and nitrite assays are perhaps best used in conjunction. A meta-analysis by Devillé, et al found that the combination of positive LE and nitrites on dipstick urinalysis improved diagnostic accuracy compared with symptoms alone, having a high positive predictive value for urinary tract infection in females older than 14 years

with classic symptoms.³ Three symptoms (dysuria, urgency, and nocturia) were also shown to have a positive likelihood ratio (LR) for UTI significantly greater than 1.0 (1.1, 1.2, and 1.3, respectively).⁴ If a dipstick analysis in clinical practice is positive for both nitrites and LE in the setting of a patient with classic symptoms (dysuria, nocturia, urgency), it is reasonable to assume the patient has a UTI while sending a urine culture as indicated. The most common bacteria causing uncomplicated cystitis and pyelonephritis are *E coli* (75%-95%), *P mirabilis*, *K pneumoniae*, and *S saprophyticus*.⁵ Urgent care providers should familiarize themselves with relevant treatment guidelines, as well as local antibiotic resistance data.

Protein is present in a variety of pathologies, including CKD, nephrotic syndrome, preeclampsia, and ESRD in diabetic patients.⁶ Patients with persistent proteinuria should be further evaluated with a 24-hour urine protein and continued outpatient follow-up. If ongoing proteinuria is present, nephrology referral should be strongly considered.

Other relevant aspects of the dipstick urinalysis include pH, specific gravity, and glucose. *Urinary pH* can be abnormal in a variety of clinical presentations, notably metabolic acidosis and toxic ingestions. Any patient with severe acid-base derangements on a basic metabolic panel and a substantially abnormal urinary pH should be referred for further evaluation. Otherwise, urinary pH is rarely useful in the acute care setting. *Specific gravity* measures osmolality of urine and can be used as a surrogate marker of a patient's hydration status. A low or normal specific gravity is reassuring that significant dehydration is less likely in an otherwise well appearing patient. *Glucose* in the urine can be a marker of new-onset or uncontrolled diabetes along with a host of other illnesses, suspected by symptoms of polyuria, polydipsia, polyphagia, and weight loss. Persistent glycosuria should prompt further testing and consideration of referral for evaluation for diabetes and subsequent management as indicated.

What About Microscopic Urinalysis?

Though not widely available or in common use in many urgent care settings, urine quantitative microscopy provides additional data about a urine sample, much of which can be clinically useful. The first value mentioned on a microscopic urinalysis report is the gross assessment of the urine with the consistency and color being noted. A consistency of "turbid," for example, might be indicative of crystals or inflammation in the urine. Changes in color may indicate the presence of blood (red or dark), drugs (orange for azo or rifampin, green

for methylene blue), or ingested foods (beets or rhubarb). Urine sediment analysis is also routinely reported on microscopy and is an assessment that cannot be obtained from dipstick testing. There are three primary components of the sediment: cells, casts, and crystals. There are four cell lines that are important: RBCs, WBCs, eosinophils, and epithelial cells (most often squamous cells).

As mentioned previously, dipstick urinalysis can non-specifically detect the presence of RBCs, free heme, or myoglobin in the urine. Microscopy can then be utilized to confirm the presence of true hematuria, again seen in five principal pathologies: infection, malignancy, stones, trauma, or glomerulonephritis. Gross hematuria should be evaluated further to discern an etiology; patients with persistent hematuria need referral for urological consultation. This can frequently be done as an outpatient if the patient is clinically stable and well appearing.

Pyuria, defined by WBCs >10 per high power field, can be indicative of infection or inflammation. Similar to leukocyte esterase, lack of pyuria has a high negative predictive value for the presence of infection.⁷

Eosinophils in the urine should prompt consideration for interstitial cystitis but can also be present in parasitic infections and allergic reactions.

Epithelial cells in the urine, particularly squamous cells, are an important sign of contamination and the need for a novel specimen. The authors' opinion is that if the pretest probability for urinary tract infection is very high (classic symptoms of UTI in a young healthy female patient), the presence of epithelial cells should not dissuade a provider from pursuing appropriate UTI treatment if a novel specimen is not readily able to be obtained.

Casts and crystals

Casts are cylindrical structures that are formed in the renal tubules and assume the shape of the lumen in which they are formed. They are described based on their appearance. Some examples are RBC casts indicating glomerulonephritis, WBC casts indicating renal inflammation as in pyelonephritis, and muddy brown or tubular casts indicating acute tubular necrosis and renal cell death. Crystals can be present in several disease processes. Uric acid crystals may indicate gout or tumor lysis syndrome, calcium pyrophosphate crystals may indicate pseudogout, and calcium oxalate crystals may indicate stones or ethylene glycol ingestion as notable examples.

Not all clinics have the ability to do urine microscopy testing. Fortunately, although urine microscopy can provide a lot of clinically useful information, the available

evidence suggests microscopy adds little relevant data compared to the dipstick results when assessing specifically for UTI. In a systematic review, Beyer, et al found that adding urine microscopy to urine dipstick only slightly improved the sensitivity for detecting an underlying UTI.⁸ The authors noted that the sensitivity of dipstick and microscopy combined fell below the gold standard of a urine culture.⁹ Prior studies noted that microscopic detection of moderate bacteria and WBCs in urine microscopy had sensitivities less than 75% and 80%, respectively.¹⁰ The positive predictive value (PPV) of microscopic examinations of pyuria, bacteriuria, or both have been shown to be as low as 33%.¹¹ A positive dipstick urinalysis without additional urine microscopy in the setting of classic symptoms of a urinary tract infection is likely sufficient to diagnose a UTI with an additional urine culture as indicated.

When Should I Send a Urine Culture?

Urine culture is considered the gold standard for diagnosis of a urinary tract infection, yet there is significant practice variation in terms of providers' ordering patterns. National and international guidelines recommend urine culture in all patients clinically suspected of having a UTI with the exception of patients with uncomplicated cystitis. Uncomplicated cystitis is classically defined as a healthy, young, nonpregnant female with typical symptoms of a urinary tract infection and no risk factors for drug resistance. In turn, urine cultures should be performed in all of the following clinical scenarios:¹²

- Suspected acute pyelonephritis
- Symptoms that do not resolve or recur within 4 weeks after the completion of treatment
- Women who present with atypical symptoms
- Elderly patients in whom you have suspicion for UTI without classic symptoms
- Complicated urinary tract infection (male patients, pregnant patients, vesicoureteral reflux patients, patients with recent instrumentation, diabetic patients, immunocompromised patients, patients with a history of resistant or nosocomial infections, patients with urinary obstruction)

A urine culture is classically considered positive when the culture is >100,000 colony-forming units per mL if an adequate sample that limited contamination was obtained. There are a number of notable exceptions to this rule, including: male patients, women with classic symptoms of a urinary tract infection, patients already on antibiotics, and patients undergoing urologic intervention. In these patients, >100 colony-forming units per

Take-Home Pearls and Brief Summary

1. Gross appearance – color and turbidity
2. Dipstick urinalysis
 - a. Blood: RBC vs free heme vs myoglobin (utilize urine microscopy and clinical presentation to differentiate). Negative blood assay = high NPV for hematuria
 - b. Leukocyte esterase: WBC surrogate. Fairly sensitive but not specific for diagnosis of a UTI
 - c. Nitrites: Surrogate for certain bacteria. Fairly specific but not sensitive for diagnosis of a UTI
 - d. +LE and +nitrite in a patient with classic UTI symptoms has a high PPV for a urinary tract infection
 - e. Protein: May be indicative of a number of pathologies (examples include CKD, preeclampsia, nephrotic syndrome)
 - f. Urinary pH: Rarely useful in the acute care setting
 - g. Specific gravity: Surrogate for hydration status
 - h. Glucose: Can be elevated in a myriad of conditions, consider complications of diabetes
3. Microscopy
 - a. Cells
 - i. RBCs (infection, malignancy, stones, trauma, or glomerulonephritis)
 - ii. WBCs (representative of inflammation or contamination, absence of pyuria on microscopy has a high NPV for the absence of infection)
 - iii. Eosinophils (allergic reactions, parasitic infections, interstitial cystitis)
 - iv. Epithelial cells (contamination)
 - b. Crystals (gout, pseudogout, stones, toxic ingestion)
 - c. Casts: RBC (glomerulonephritis), WBC (pyelonephritis or interstitial cystitis), muddy brown/tubular (acute tubular necrosis)
4. Culture
 - a. Classically positive if $>10^5$ colony forming units
 - b. Consider positive if $>10^2$ CFU in symptomatic females, males, patients undergoing urologic intervention, or patients on antibiotics
5. Asymptomatic bacteriuria should not routinely be treated
 - a. Always treat pregnant patients, renal transplant patients, and those undergoing urologic intervention

mL are sufficient to diagnose a urinary tract infection.¹³

There are limitations to the sensitivity of urine culture in specific patient populations despite it being the current gold standard. Though not available in any routine clinical practice, approximately 90% of symptomatic women will be found to have a true urinary tract infection if multiplex PCR is utilized to detect urinary pathogens despite a negative urine culture, suggesting that most women with classic symptoms can reasonably be treated empirically for urinary tract infection.¹⁴

Asymptomatic Bacteriuria: to Treat or not to Treat?

In general, asymptomatic bacteriuria should not be routinely treated, even in patients with a history of immunosuppression, diabetes, spinal cord injuries, indwelling catheter placement, advanced age, or those undergoing orthopedic procedures.^{12,13} A number of trials have demonstrated that treatment of asymptomatic bacteriuria has no statistically significant effect on the incidence of symptomatic UTI, complications of UTI, or death compared with no treatment or placebo in all of these patient populations.⁷ The available evidence and national and international guidelines do support treating asymptomatic bacteriuria in pregnant patients, patients undergoing urologic intervention, and renal transplant recipients.^{12,13} Despite these recommendations, frequent overtreatment of asymptomatic bacteriuria is occurring in a variety of settings and can be harmful. Overtreatment can lead to a number of complications including unnecessary adverse drug effects, allergic reactions, and antibiotic resistance. ■

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This article was adapted from segments featured on the *Urgent Care RAP* podcast – a HIPPO Education product. For more information on *Urgent Care : RAP*, visit www.hippoed.com/urgent-care/rap/.



Foraged Mushroom Toxicity Presenting to Urgent Care with Acute Kidney Injury

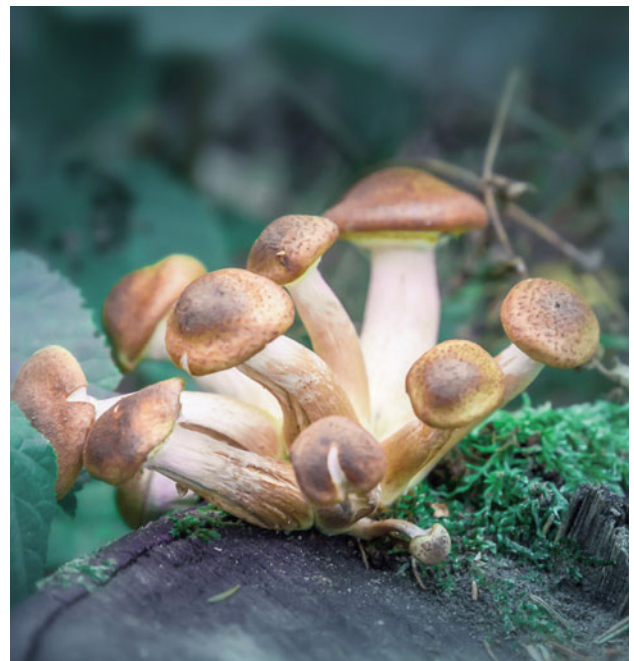
Urgent message: Though it occurs relatively rarely, mushroom toxicity can result in irreversible organ damage and, in certain cases, death if not recognized quickly. Diagnosis can be difficult due to the facts that toxicity may present at different intervals from time of ingestion, depending on the species of mushroom, and initial symptoms are nonspecific and similar to those of benign gastrointestinal illnesses. Timely consultation with a poison control center may be life-saving.

MICHELE L. STOWE, PA-C, MPAS and JOSHUA W. RUSSELL, MD, MSC, FAAEM, FACEP

Introduction

Mushroom foraging is a popular activity in the U.S. Pacific Northwest (PNW). Based on cultural traditions, many Asian and European immigrants commonly forage for mushrooms, as well. A case of mushroom misidentification may occur when a poisonous species in the U.S. is mistaken for an edible species in an individual's country of origin, which occurs most commonly among species from Europe and Asia. There are also poisonous local native species which can be confused with edible species with similar appearances. *Amanita smithiana* is an example of a poisonous native PNW mushroom which is similar in appearance to, and grows in the same densely forested habitat as, an edible species: the pine mushroom (or *matsutake* as it is known in Asia), which is used in many traditional Asian dishes.¹

Amanita smithiana is known to cause delayed renal failure when ingested, due to the nephrotoxic compound allenic norleucine.² Gastrointestinal symptoms generally begin within 6 hours of ingestion, but renal toxicity does not manifest until 1 to 4 days after ingestion; as such, it may not be evident on initial laboratory evaluation. The treatment is supportive and often requires several weeks of dialysis.³



The case presented here concerns suspected *A smithiana* toxicity with subsequent acute renal failure.

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Case Presentation

A generally healthy 52-year-old man of East Asian descent presented to an urgent care center complaining of loose stools the previous night followed by severe vomiting. He was unable to tolerate any oral intake. He spontaneously reported that he had eaten mushrooms foraged from a forest in Western Oregon several hours prior to the onset of his symptoms. He reported that he thought he had eaten three different species and was uncertain of the identity of one of the mushrooms. His wife, who also ate some of the foraged mushrooms, was asymptomatic. The patient denied fever, abdominal pain, fevers, chills, rash, hematochezia, dysuria, or darker urine.

His physical exam, including abdominal exam, and vital signs were normal. He was uncomfortable, but in no distress. A dipstick urinalysis showed 3+ protein, pH 9, and 3+ glucose. The patient had no known history of kidney disease. The patient was sent to the emergency department for further evaluation, given concerns for the possibility of nephrotoxic mushroom ingestion. In the ED, his vitals and exam remained normal. On laboratory evaluation, the patient had mildly elevated transaminases (ALT 179 U/L, AST 49 U/L) and significantly abnormal renal function (creatinine 2.8 mg/dL). Poison control was contacted. Given locality, timing of symptom onset, and presentation of acute kidney injury (AKI), the consulting toxicologist suspected the most likely species of mushroom was the *Amanita smithiana*.

Clinical Course

The patient was admitted to the hospital and received intravenous fluids. The following morning he was anuric and his labs showed worsening renal function but stable transaminases (creatinine of 5.24 mg/dL, ALT 176 U/L, and AST 48 U/L). A viral hepatitis panel was nonreactive. Hemodialysis was initiated via a temporary internal jugular dialysis catheter. A renal biopsy 3 days later revealed acute tubular necrosis (ATN). A tunneled hemodialysis catheter was subsequently placed on day 7; the patient was discharged 2 days later with plans to continue dialysis and follow up with nephrology. Creatinine at the time of discharge was 8.2 mg/dL and he had begun producing urine. His creatinine was 1.59 mg/dL when seen by nephrology on day 20 of his illness and the transaminases at that time had returned to normal. The dialysis catheter was removed 9 days later (29 days after ingestion). The patient experienced some mild weakness after hospitalization, but was able to return to work 1 month after hospital discharge.

Discussion

Acute nausea, vomiting, and diarrhea are extremely common complaints in urgent care medicine, often due to viral gastroenteritis, and typically resolve with supportive care. In rare cases, however, such as after toxic mushroom ingestion, these symptoms can suggest the possibility of imminent organ failure.

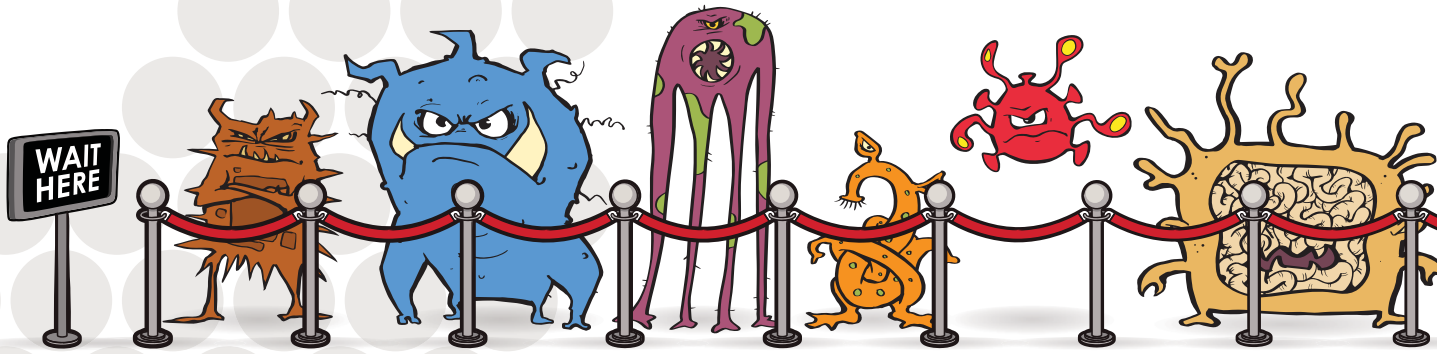
In this case, the history of GI symptoms following ingestion of foraged wild mushrooms was critical for expanding the differential diagnosis. The dipstick urinalysis, which demonstrated proteinuria and glucosuria in a patient without known renal disease, raised further concern for mushroom toxicity. ED referral was helpful in allowing for further immediate laboratory assessment, as well as admission for monitoring.

Urgent care providers are constantly faced with decisions regarding possible escalation of care to an ED setting. Often, the indications are obvious; other times, however, they are more subtle.

While *Amanita smithiana* poisoning causes predominantly renal injury, there are many other species of poisonous mushrooms which can affect kidney function or result in toxicity to other target organs. Most notably, *Amanita phalloides*, commonly referred to as the “death cap,” can cause severe liver injury and fulminant hepatic failure, even in minute quantities.⁴ Initial GI upset, however, is a common feature in most cases of foraged mushroom poisoning, with misidentification being the most common cause of accidental ingestion.⁵ Therefore, a history of eating foraged mushrooms is worth exploring in patients presenting with GI distress. Even with mild presenting symptoms, these patients should be discussed with a specialist from the local poison center and, generally, referred to an ED immediately for full renal and liver function testing. Such GI symptoms may be a harbinger for impending organ failure over subsequent days, and determining with certainty that the mushroom species consumed was nontoxic is rarely achievable in urgent care. ■

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That's Not What Happened!

How to Deal with Gaslighting in the Workplace

Urgent message: Similar to workplace bullying, sexual harassment, and toxic gossip, gaslighting behaviors result in demoralized workplace cultures, lost business opportunities, and legal liability for urgent care leaders and organizations.

ALAN A. AYERS, MBA, MAcc

Past issues of *JUCM* have covered the various “axes of workplace evils” including workplace bullying,¹ sexual harassment,² and toxic gossip.³ Not to be mistaken for crude schoolyard behavior, at the heart of these very serious workplace dysfunctions is *one person trying to gain an advantage by exerting power over someone else*. The impact of which goes far beyond hurt feelings but rather, results in demoralized workplace cultures, lost business opportunities, even legal liability for leaders and organizations.

In psychology, the term *gaslighting* describes when someone is being manipulated to doubt their own sanity or start to believe they're no longer a good judge of their own memory, feelings, experiences, or logic. The term comes from a 1944 motion picture of the same title about a husband who drove his wife insane by causing her to constantly question her own reality.

In the workplace, gaslighting manifests in interpersonal communication. For example, a nurse brings a legitimate concern to the medical director in a sincere attempt to improve patient safety but the physician snaps back, *That's none of your business...*, *The real problem is...*, or *You're just jealous of...*—all responses which diminish the employee's concerns, dismiss the employee's motives as petty, and avoid addressing the real issues at hand. When gaslighting occurs, the organization gets deprived of employee engagement and continual improvement for the sake of maintaining the status quo and the gaslighter's sense of power.

Gaslighting tactics are used to manipulate someone



else by instilling self-doubt. Like workplace bullying, sexual harassment, and toxic talk, gaslighting is ultimately

“Rather than connecting over fact-based experiences and problem-solving opportunities, a gaslighting boss might use undue judgment, an unnecessary level of scrutiny, or microaggressions to manage.”

—Shahida Arabi⁴

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about exerting *power and control* over a victim. While often mentioned in the context of narcissism, gaslighting differs from narcissism in that gaslighting is not a personality disorder (see **Exhibit 1**) but rather describes the tactics used by narcissists and others to manipulate people. While gaslighters are often portrayed as insecure in their ability to lead or convince people in factual terms, a growing body of research indicates that many gaslighters simply find pleasure in controlling others.⁵ Or more simply, some gaslighters are pathological but many others are just “jerks.”

When gaslighting occurs, victims are left feeling uncertain and insecure and some even have difficulty ascertaining that they’re in a gaslighting situation. In extreme cases a codependency develops between the gaslighter and victim in which the victim, deprived of self-confidence and trusting in the gaslighter’s position of authority, doubts his/her own ability to be successful apart from the gaslighter while the gaslighter continues to shape the victim’s sense of reality. For example, a victim who has internalized the gaslighter’s abuse will remain loyal because they *believe* they are incapable of doing better and undeserving of being happier, in a different environment. This end effect has been compared to brainwashing, cults, and totalitarian propaganda all designed to *disempower* people.⁶

The tragedy in organizations is that everyone on a team is successful to the extent that they’re aligned around a common set of values—which in urgent care should involve safe, quality, efficient care, and a positive patient experience—and organizations should value a diverse and dynamic workforce to bring new ideas to the table for continual improvement—but in the end, gaslighting undermines the success of everyone on the team, including the gaslighter him/herself.

The ultimate victim of gaslighting behavior is therefore the organization and everyone associated with it. That’s why it’s incumbent upon management teams, including human resources leaders, to bring awareness of gaslighting as part of an overall program that addresses all workplace toxicity, including workplace bullying, sexual harassment, and toxic gossip. This starts with understanding and recognizing gaslighting behaviors.

Recognizing Gaslighting Behaviors

Gaslighting manifests in behaviors that either create or leverage an unequal power relationship to constantly put the victim “in their place.” Gaslighting tactics that diminish the importance of what an employee or co-worker is saying include:

Exhibit 1. Consider the following example of workplace gaslighting and its impact on the organization:

Center Employee:

“The back-to-school festival on Sunday went really well, we talked to a lot of parents who didn’t know about the urgent care, and some have already committed to come in for school physicals.”

Management Gaslighting Responses:

- “With the Fall enrollment deadline approaching all those students would have come in anyway.”
- “How do you know it was successful? Did you calculate how many visits we saw relative to the cost?”
- “Well, okay, but XYZ Urgent Care does on-site physicals and has a banner on the scoreboard.”

Impact on the Organization:

Employees become demotivated to volunteer for marketing events, do fewer events, put forth less time and effort in the events, and do not engage with the public when at the events, resulting in lost revenue potential for the urgent care center.

- cancelling, postponing, or being routinely late to meetings
- looking at one’s cell phone or email, or texting someone else while pretending to be listening
- asking a question and then interrupting the answer
- engaging an uninvolved third person in the conversation to make the victim feel outnumbered
- silent treatment in the form of postponing a response to, or completely ignoring, the victim
- “forgetting” whatever was previously communicated, twisting what was communicated, or denying the communication even occurred

When interacting interpersonally, the gaslighter will often cross the line between what’s appropriate discussion in the workplace and making backhanded comments about the victim’s flaws, insecurities, appearance, education, values, religion, personality, family, hobbies and other subjects that by all social norms are considered taboo in a professional setting. Ignoring commonly accepted social boundaries implies privilege and entitlement while dehumanizing the victim by denying their rights to privacy and personhood.⁷

Other gaslighting techniques to dominate a conversation and maintain control of the dialogue include:

- contradiction
- shaming and humiliation
- self-aggrandizement

- distortion of facts
- off-color joking
- nit-picking
- sarcasm
- nonsensical word salads
- diminishing accomplishments
- circular reasoning
- personal attacks
- projection

In the case of contradiction, a gaslighter may deliberately argue every point of a victim's recommendation but then, with a different audience, present the recommendation as their own. When later called on it, the gaslighter may say something like "I was just trying to understand" the victim's point of view or they may deny any discussion occurred with the victim as it was the gaslighter's idea all along.

When looking at facts, such as business statistics or financial results, a gaslighter will give a different interpretation that fits their needs, often in sharp contrast to what is obviously in front of everyone. When the gaslighter is the boss, people are forced to accept this "alternative reality" as, ultimately, gaslighting techniques are intended to confuse, disorient, frustrate, and distract individuals from the real issues at hand.

When working in teams, a gaslighter will pit team members against one another by selectively offering isolated compliments and praise, which can provoke team members to one-up each other rather than collaborating. The situation is made worse when some team members are not held accountable to the same standards. There are often one or two "protected" people (ie, those loyal to the gaslighter) that others are constantly compared to (ie, "Why can't you do it more like Emily?") even if those individuals appear to everyone else to have obvious shortcomings or are experiencing their own gaslighting by the perpetrator. While the gaslighter may see this comparison and competition as a form of "motivation," it actually cements an unequal power structure and distrust among team members. Gaslighters are innately poor team members because they view relationships as competitive rather than collaborative, always with one person on top and one on the bottom.⁷

How to Respond to Gaslighting

An employee should never be afraid of their boss. Rather, the workplace should empower employees to honestly and openly share ideas, suggestions, fears, and worries about their jobs without punishment. If an employee decides to stay in a job where they've experi-

enced gaslighting, they must put greater trust in their gut or instinct, remembering every time they felt insecure about their job that was due to the gaslighting as opposed to being bad at their job. It's important for employees to be certain in their memory and experiences, even maintaining a diary for backup, so when they have to stand up to the gaslighter, they can confidently say "No, that's not what happened, here are the facts...."

When appropriate, an employee can engage human resources, although HR departments are often ill-prepared to identify the underlying issue and frequently get caught up in he said/she said. To prevent HR from co-opting with the gaslighter in "blaming the victim," a level of confidentiality should be agreed upon prior to getting into specifics. Because gaslighters absolutely hate being found out and thus losing control, HR action against the gaslighter may be met with a punitive response. The sad reality is the employee may have to choose between their integrity, their income, and enduring continued gaslighting.

Like standing up to a bully, a victim who attempts to stand up to a gaslighter will likely face subtle "punishments" long after the conversation has ended. Victims will feel silly, stupid, incompetent, always in the wrong, and like they cannot recall what was said in meetings. To compensate for these feelings, victims frequently apologize, make self-deprecating comments, or overwork to prove a point or regain the boss's trust.

Gaslighters have been known to even disparage the victim's reputation to others while pretending to be concerned (ie, "I've noticed Jenny has been having a tough time managing all the changes"), which results in others innocently co-opting with the gaslighter to perpetuate the manipulation.

"They do this in order to discredit, confuse and frustrate you, distract you from the main problem and make you feel guilty for being a human being with actual thoughts and feelings that might differ from their own. In their eyes, you are the problem if you happen to exist."

—Shahida Arabi⁴

When the repeated use of gaslighting tactics drives an otherwise loyal, hardworking employee to their emotional limits, the gaslighter then hits below the belt by trivializing the victim's entire human experience:

- *You're just too sensitive. You need to lighten up.*
- *Why are you making a big deal of out nothing?*

Exhibit 2. Workplace Bullying Perpetrators and Victims

As a manifestation of workplace bullying, gaslighting shares a similar dynamic in that the perpetrators are typically bosses (managers, supervisors, and medical directors) who are competitive and driven but lack emotional security. Bullies crave power and control, and have a sense of superiority due to their position but are often unsure of their own abilities, resent the success of others, and above all are threatened by a co-worker's or employee's show of independence.

While one might believe that the targets of workplace bullying (and thus gaslighting) are the same as schoolyard bullying—those who are loners, weaklings, or physically different—actually quite the opposite is true. Targets tend to be the most skilled individuals in a workgroup—the “go to” people whose promotion, special recognition, or confidence create envy in bullying supervisors.¹

- *Maybe you just don't have the emotional fortitude to be in your position.*
- *Nobody else seems to be upset about this. Can't you take a joke?*
- *I never said or did that. You're imagining things.*

These final responses are why gaslighting is ultimately defined as making one question their own sanity. One cannot endure gaslighting over long periods of time without it profoundly affecting who they believe they are. Unfortunately, if the business isn't going to take it seriously, and if the boss isn't going to change, the employee may just have to go elsewhere.

Another outcome when gaslighting behaviors are called out, which rarely occurs when the gaslighter is the boss, is the perpetrator might do a full 180 and pour on the charm, including feigning compliments. This “love bombing” keeps victims constantly hoping for a positive outcome. It shows them that things aren't all bad and that they can stick things out for another day.⁸

Conclusion

End of the day, nobody has the right to manipulate anyone, in any way, regardless of the cause. Being the boss is inherent control and power in the workplace but for some people, that's not enough if they don't have *total* control and power. The ideal workplace is one in which diverse team members can bring their authentic selves, collaborate honestly and openly towards a shared goal, make ethical decisions with personal integrity, and feel good when celebrating workplace wins. When it comes

Exhibit 3. Gaslighting and Narcissism: Quick to Criticize, Sensitive to Judgement

Narcissism is often inaccurately described as extreme self-love, but in more practical terms refers to a pattern of self-centered, arrogant thinking and behavior, a lack of empathy and consideration for other people, and an excessive need for admiration rooted in personal insecurities.⁹ While gaslighting is a behavioral trait that's very common to narcissists, gaslighting is not the defining symptom of narcissism; nor are all gaslighters narcissists.

In short, narcissists lie and exaggerate to boost their fragile self-worth. They are looking for attention, admiration, and validation. Gaslighters, by contrast, are looking for domination and control. When individuals possess traits of both narcissism and gaslighting, the result is a highly toxic combination of vanity, manipulation, bullying, and abuse.

Both narcissists and gaslighters become upset at any sign of independence and self-affirmation (ie, “Who do you think you are!!!”) and become agitated when called out. In short, they can dish it out but not take it.¹⁰

to gaslighting there are no perfect answers, but it is critical to recognize the toxic behavior, maintain a strong sense of self, and remain confident in value you bring to the company every day. ■

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What Are the Legal Remedies to Stop Cyberstalking of Your Urgent Care Center?

Urgent message: Social media provides a platform in which patients, who perceive they're relatively anonymous, can bully or harass a business they feel has "slighted" them. To mitigate the cost of lost reputation and labor in countering online vitriol, urgent care operators need to know their rights and remedies for "cyberstalking."

■ ALAN A. AYERS, MBA, MAcc

The customer is always right. Typically, this adage reveals itself when the customer isn't happy. The customer thinks they know what's best and that their answer is the right one—no matter what's logical in a situation or what they may be told.

Urgent care patients can become disgruntled over some aspect of the service experience and dissatisfied with the response of urgent care personnel. Some patients become "triggered" when they can't get the answer (or, in some cases, the prescription) they want. Rather than rationally working together to find a resolution, many of these individuals skulk away and take out their "revenge" online.

This is what is termed *consumer grudge*—a psychological state of maintaining a victim role and experiencing negative emotions associated with some hurtful offense.^{1,2}

A Real-Life Story

Bob visited an urgent care but was asked to pay cash for a nonemergent procedure after trying to use an out-of-state Medicaid card which wasn't accepted as payment at the facility. In fact, no medical provider in the Washington, DC area was going to accept an Alaska Medicaid card for the simple reason that there is no way to get paid on it.

If Bob had looked into the situation beforehand, he would have realized that trying to use an out-of-state Medicaid card is all but impossible. He hadn't lived in Alaska for nearly a year and should have secured Medicaid or health insurance at his new residence. Each state has its own Medicaid eligibility requirements, so he can't use his coverage when he's visiting the District of Columbia or anywhere outside of Alaska.^{3,4} It's like trying to pay with at the gas pump with your library card. It just won't work.

This is a reasonable explanation for the situation. However, at this point, Bob isn't reasonable and his enraged response is highly disproportionate to the actual "offense." He decides to dedicate much of the next few weeks posting hundreds of threatening comments, reviews, and emails about his perceived slight at the urgent care, which he describes as a travesty of epic proportion.

Now the urgent care operator is compelled to spend time, money, and effort to have Bob banned from Facebook and other social media sites. In the actual case, many staff hours were wasted cleaning up the false comments he obsessively posted.

All this because he thought he was entitled to use his Alaska Medicaid card in a DC urgent care.

Defamation is generally defined as any false statement that injures a person's status, good name, or reputation in the community.⁵ This definition certainly encompasses Bob's actions against the urgent care. Further, *cyber-smearing* is anonymously posting disparaging, defamatory comments,



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rumors, or statements about a company or their employees via the Internet.⁵

This article is designed to assist those in urgent care prepare to deal with this type of scenario before they're hit off-guard by what can be defined as *corporate cyberstalking*.⁶

“Print the harassing emails with the full email header, harassing instant messages, and private messages, texts, as well as harassing messages or defamatory messages about the urgent care facility. Note the dates and times of all harassment in hard copy and save all electronic evidence.”

How Does the Law Define Cyberstalking?

While each state has its own definition, as an example, Washington State holds that a person is guilty of cyberstalking “if he or she, with intent to harass, intimidate, torment, or embarrass any other person, and under circumstances not constituting telephone harassment, makes an electronic communication to such other person or a third party:

- (a) Using any lewd, lascivious, indecent, or obscene words, images, or language, or suggesting the commission of any lewd or lascivious act;
- (b) Anonymously or repeatedly whether or not conversation occurs; or
- (c) Threatening to inflict injury on the person or property of the person called or any member of his or her family or household.”⁷

Illinois defines online stalking or cyberstalking as “repeated, unwanted social media contact.” This includes direct messaging, comments, replies, and any other form of social media communication to the victim.”⁸⁻¹⁰

However, an added problem can be the degree of anonymity when interacting online and the ability to cyber-smear. While the patient Bob in the example above was known to the urgent care, in many cases these cyber attackers will be passive aggressive, with the perpetrator hiding behind an anonymous screen name. And while social media companies enable comments and reviews to promote community and collaboration, a review site like Yelp can be overrun by unsubstantiated negative comments. While these sites typically have a mechanism for removing unsubstantiated negative reviews, resolution can take between three and five business days for the site's moderators to make

a decision. However, if a review doesn't meet Yelp's definition of inappropriate content, the comment will not be removed from the site.¹¹ The same is true with other popular sites such as Facebook and Google Reviews. If a disgruntled patient posts hundreds of reviews, it may take some time to remedy this situation, if a remedy is even possible.

How Can an Urgent Care Facility Protect Itself and Its Reputation from Cyberstalking?

A patient has a ready and accessible forum to make threatening or harassing posts and comments about the urgent care center, which can include excessive comments, false negative reviews, derogatory comments, spamming posts with vitriol, deleting or flagging posts, and attacking other innocent third-party patient-reviewers of the business.

Urgent care companies are all but powerless to halt cyber-smearing (anonymous cyberstalking) by an individual. However, they can prepare for this by having damage control mechanisms in place, which are critical to combatting these anonymous attacks.⁵

This type of behavior is clearly harassment, tortious interference in a business, intimidation—all of which are intended to harm a business's reputation, impede marketing, and intimidate employees. Posting fake negative reviews can ruin an urgent care's revenue and damage its business and clinical reputations.¹

The most difficult thing in the entire process may be resisting the urge to respond or retaliate. Doing so may actually do more harm than good, and exacerbate the situation, resulting in increased harassment and activity from the cyberstalker.

Legal remedies

Urgent care owners and operators should educate themselves on what actually constitutes cyberstalking and a cyberstalker's legal defenses.

Of course, a patient who is caught or acknowledges that he made such comments will immediately assert his First Amendment right to free speech.

In a 2018 case, a retired Air Force major challenged Washington State's cyberstalking statute.⁷ The Ninth Circuit Court of Appeals held that he could pursue his First Amendment challenge to the state's cyberstalking law. While the U.S. Circuit Court of Appeals ruled on a procedural issue, the plaintiff was free to challenge the statute.^{12,13}

Washington State's cyberstalking statute's constitutionality was challenged earlier this year, but the state court of appeals upheld the statute because its language closely mirrors the language in the telephone harassment statute, which has been upheld as constitutional.^{14,15}

Cyberstalking can constitute a legitimate threat, and Washington recognizes this and has provided a definition for litigation.

For example, the Washington Pattern Jury Instruction 2.24 includes a paragraph defining “true threat” as the following:

“To be a threat, a statement or act must occur in a context or under such circumstances where a reasonable person, in the position of the speaker, would foresee that the statement or act would be interpreted as a serious expression of intention to carry out the threat rather than as something said in [jest or idle talk] [jest, idle talk, or political argument].”¹⁶

Thus, in court, a victim company of cyberstalking can present evidence in the form of screenshots of the tweets, reviews, emails, or posts to demonstrate a claim. An urgent care should print out the harassing emails with the full email header, harassing instant messages, and private messages, texts, as well as harassing messages or defamatory messages about the urgent care facility on social networking sites. Note the dates and times of all harassment in hard copy and save all electronic evidence. In addition, bookmark the username and profile URL of the person harassing the business via social networking website(s).

In many states, you can file for a restraining order against a person engaging in stalking or harassment, even if there is no specific relationship with that person.¹⁷ An attorney can send a cease-and-desist letter which may be a first step, but a court order carries more weight and has immediate legal consequences if the individual continues his threatening behavior.

In addition, law enforcement has recognized the seriousness of this behavior. A victim can file a report with local law enforcement or file a complaint to the FBI Internet Crime Complaint Center IC3.¹⁸

Companies Must Protect Their Online Reputation

An urgent care facility can attempt to ban egregious users and delete their posts, but this may incense the cyberstalker enough for them to take additional steps against the company.

A new industry has evolved to address this type of issue. Online reputation management is the process of shaping the perception of a business or brand on the internet by using social media, press releases, and other information on your website.¹⁹

Takeaway

Cyberstalking involves the use of technology to make urgent care employees fearful or concerned about their safety. Disgruntled patients may engage in cyber-smearing, which is the anonymous posting of disparaging, defamatory comments; rumors; or statements about a company or their employees via the Internet.

While anonymous authors of such a smear campaign can be all but impossible to apprehend, urgent care facilities must

be vigilant in their monitoring of social media and customer communications and reviews. If the patient’s identity is known, an urgent care owner can contact law enforcement and leverage the state’s statutes prohibiting cyberstalking, as well as engaging legal counsel to attempt to enjoin the patient from further defamatory activity.

No urgent care wants to experience a high level of grudge-holding in the form of cyberstalking. In addition to taking legal action, an urgent care may consider a proactive public relations campaign to combat false information found on the Internet.²⁰ Online reputation management is vital in today’s online environment. ■

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- POCUS in Children with Respiratory Illness
- POCUS in Vision Loss

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Hydroxychloroquine Not Beneficial in Mild-to-Moderate COVID-19 Infections

Contributing author: Lauren Bulgarelli, MD

Key Point: Hydroxychloroquine was compared with the standard of care in a randomized trial and was not shown to be associated with a higher probability of negative conversion than the standard of care.

Citation: Tang W, Cao Z, Han M, et al. Hydroxychloroquine in patients with mainly mild to moderate coronavirus disease 2019: open label, randomised controlled trial. *BMJ*. 2020;369:m1849.

Relevance: Hydroxychloroquine has been widely utilized for the treatment of COVID-19 infections as it had shown promising in vitro results against two other coronavirus diseases. However, this study showed no significant improvement in probability of negative conversion compared to the standard of care. In addition, adverse events were higher in the hydroxychloroquine recipients.

Article Summary: A multicenter, open-label randomized controlled trial was completed with 150 patients admitted to the hospital with lab-confirmed COVID-19 infections. Half were assigned to the standard-of-care and half were assigned to the standard-of-care plus hydroxychloroquine group. The probability of negative conversion by 28 days in the standard-of-care plus hydroxychloroquine group was 85.4%. The probability of negative conversion in the standard-of-care group was 81.3%. The adverse-reaction rate was 9% in the standard-of-care group

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and 30% in the hydroxychloroquine group. The authors concluded that there was not a significant benefit for hydroxychloroquine use in mild-to-moderate COVID-19 infections. In addition, there was significant risk for adverse events when using hydroxychloroquine. ■

Enhancing Herd Immunity to Control COVID-19

Contributing author: Lauren Bulgarelli, MD

Key Point: You can use a mathematical formula based on a country's total number of COVID-19 cases to predict the percentage of the population required to become infected to establish herd immunity.

Citation: Kwok KO, Lai F, Wei WI, et al. Herd immunity—estimating the level required to halt the COVID-19 epidemics in affected countries. *J Infect*. 2020;80(6):e32–e33.

Relevance: Herd immunity has been considered as a possible way to control the COVID-19 pandemic. The idea would be to expose younger, healthy individuals until we reach the level of herd immunity. However, the high percentage of people required to become infected for herd immunity combined with the high death rate may be difficult to accept as a way to control the pandemic.

Study Summary: The authors took the total number of cases from a large selection of individual countries and calculated the effective reproductive number for a given population. This number was then used to calculate the minimum level of population immunity to halt the spread of infection in that population. The percentages of population required to get infected for herd immunity ranged from 6% to 85%. However, the majority of countries had a percentage ranging from 60% to 80%. The study was limited by small sample sizes as it was published in the early days of the pandemic. ■

Combining Oral Acetaminophen, Ibuprofen, and Codeine for Minor Acute Musculoskeletal Injuries Provides No Improvement in Pain Relief Compared to Acetaminophen Alone

Contributing author, Lauren Bulgarelli, MD

Key Point: Combining oral paracetamol (acetaminophen) with ibuprofen and codeine provides no improvement in pain relief when treating acute minor musculoskeletal injuries. Treatment with the combination drug regimen was also shown to have significantly more adverse events.

Citation: Gong J, Colligan M, Kirkpatrick C, Jones P. Oral paracetamol versus combination oral analgesics for acute musculoskeletal injuries. *Ann Emerg Med.* 2019;74(4):521–529.

Relevance: Prescribing opioid pain medications for treatment of acute injuries has become common practice and has been shown to increase risk for long-term opioid use. This study showed no significant difference in subjective pain scores for each group at 60 minutes. Treatment with the combination drug regimen was also shown to have significantly more adverse events. Therefore, there may not be much benefit to prescribing opioids for acute minor musculoskeletal injuries.

Article Summary: The authors conducted a randomized, double-blind controlled trial of 118 adults 18-65 years of age with acute musculoskeletal pain. The participants were assessed with a self-reported pain scale at 60 and 120 minutes following administration of either the combination therapy (1 g paracetamol, 60 mg codeine, and 400 mg ibuprofen) or paracetamol monotherapy. There was no statistically significant difference found between the groups in pain reduction at 60 minutes. There was a slight favor in pain reduction towards the combination therapy at 120 minutes. There was also one extra adverse reaction for every seven patients found in the combination therapy group. Limitations of the study included exclusion of any open wounds and head or facial injuries. In addition, almost half the patients dropped out before the 120-minute pain score due to discharge from the ED. This significantly decreased the power of the study which may put the 120-minute finding at high bias risk. ■

Primary Care Visits in the United States Are On the Decline Among Commercially Insured Adults

Contributing author, Lauren Bulgarelli, MD

Key Point: Although primary care visits decrease healthcare costs and improve patient outcomes, overall visits are on the decline—while urgent care visits are increasing.

Citation: Ganguli I, Shi Z, Orav EJ, et al. Declining use of primary

care among commercially insured adults in the United States, 2008-2016. *Ann Intern Med.* 2020;172(4):240–247.

“New data are in agreement with prior literature suggestive of the need for more research while upholding lung ultrasound as a possible tool to help reduce childhood radiation, along with improving the accuracy of diagnosing pneumonia by ultrasound in young children.”

Relevance: Primary care visits have been known to decrease overall healthcare costs and improve patient outcomes. There has been a push to increase primary care use in the United States. However, between 2008 and 2016 there was actually evidence of decline in primary care usage among commercially insured adults. The decline may be associated with decreased need for some primary care visits, use of alternative venues of care, and financial barriers.

Article Summary: The authors used a repeated cross sectional study using claims data from a single commercial insurer. They examined 142 million primary care visits total. The study revealed that total PCP visits declined by 24.2% and the proportion of adults with no PCP visit within a given year rose from 38.1% to 46.4%. Visits to specialists remained stable, and visits to urgent care increased by 46.9%. The decline in PCP visits was especially larger among younger patients, as well as low-income individuals. The study was limited by only examining one commercial insurer and did not include nonbillable clinician-patient interactions. ■

Utility of POCUS in Young Children with Lower Respiratory Disease

Contributing author, Chelsea Burgin MD, FAAFP

Key Point: The utility of lung ultrasound has grown exponentially over the past 10 to 20 years, more recently in the pediatric population and its developing role in assessment for pneumonia.

Citation: Biagi C, Pierantoni L, Baldazzi M, et al. Lung ultrasound for the diagnosis of pneumonia in children with acute bronchiolitis. *BMC Pulm Med.* 2018; 18(1);191.

Relevance: It can be challenging to differentiate acute bronchiolitis from acute bronchiolitis with a secondary pneumonia in young children. POCUS may be more accurate than chest x-ray in determining the value of antimicrobials.

Article Summary: In this prospective study, 87 children with a mean age of 6 months, all under 2 years of age, were hospitalized for lower respiratory disease/bronchiolitis. Each child received a CXR and lung ultrasound to evaluate for pneumonia. Twenty-five of the 87 children were diagnosed with a secondary pneumonia. With respect to a consolidation >1 cm, ultrasound had a specificity of 98.4%, compared with a specificity of 87.1% for CXR. Although it reflects a small sample size, this study is in agreement with prior literature and is suggestive of the need for more research while upholding lung ultrasound as a possible tool to help reduce childhood radiation while improving the accuracy of diagnosing pneumonia by ultrasound in young children. ■

POCUS for Vision Loss

Contributing author: Chelsea Burgin MD, FAAFP

Key Point: Ocular ultrasound is an effective modality to assess for retinal detachment and expedite specialty involvement.

Citation: Gottlieb M, Holladay D, Peksa G. Point-of-care ocular ultrasound for the diagnosis of retinal detachment: a systematic review and meta-analysis. *Acad Emerg Med.* 2019;26(8):931-939.

Relevance: Individuals with sudden visual disturbances present

to urgent care centers as they do the emergency department, where there is value in ocular POCUS to expedite the diagnosis of retinal detachment to help accelerate vision-sparing interventions.

Article Summary: Up to one quarter of patients who present with flashes, floaters, or sudden vision loss have a retinal tear or detachment. With limited resources and training, it is difficult for non eye specialists to conduct a proficient diagnostic fundoscopic examination. In this review article, 2,621 studies were found on the subject of ocular ultrasound, 11 of which met inclusion criteria. All 11 were prospective observational trials published between 1995 and 2018. The majority of ultrasound examiners were emergency physicians, five were radiologists, and one study did not report. Twenty-one percent of study participants were found to have a retinal detachment and none of the ultrasound exams were noted as indeterminate. Overall, the sensitivity was 94.2% and specificity 96.3% in the ability of ultrasound to rule in and rule out retinal detachment. POCUS has utility in acute visual disturbances when ophthalmology is not immediately available. Ocular POCUS can accurately identify retinal detachment and expedite vision sparing measures. ■



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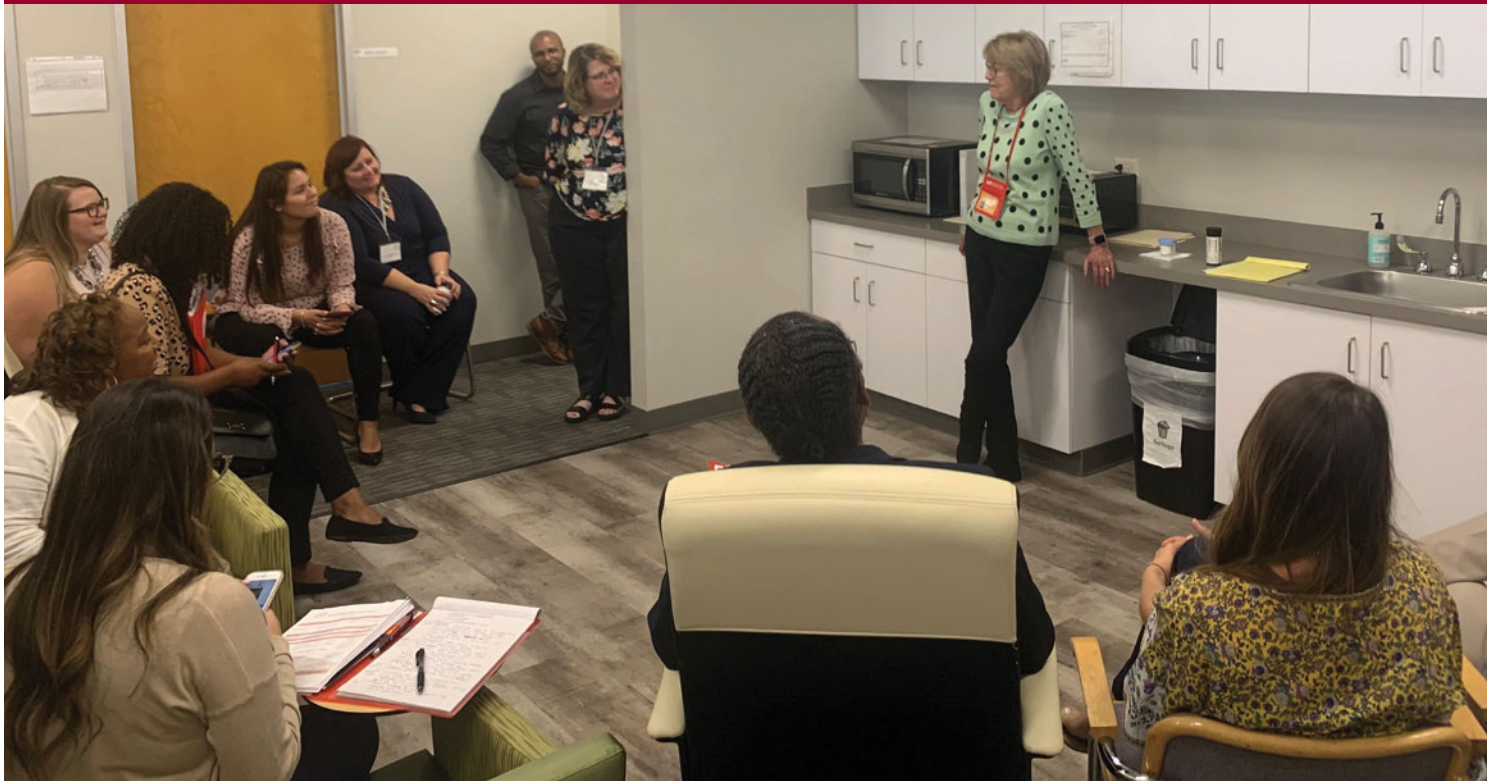




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Chest X-Ray Findings Among Urgent Care Patients with COVID-19 Are not Affected by Patient Age or Gender: A Retrospective Cohort Study of 636 Ambulatory Patients

JOSHUA RUSSELL, MD, MSC, FACEP, MD; ANA ECHENIQUE, MD, DABR; STEVEN R. DAUGHERTY, PHD; and MICHAEL WEINSTOCK, MD

Abstract

Background/Objective: A prior study of patients presenting to urgent care (UC) centers with COVID-19 showed that only a small proportion of these ambulatory patients demonstrated significant pathology on chest x-ray (CXR). In this secondary analysis of 636 ambulatory patients with confirmed COVID-19 from greater New York City (NYC), our primary objective was to determine whether the patients' age and/or gender influenced the likelihood of CXR abnormalities. Secondarily, we aim to describe patterns of specific imaging characteristics and the frequency among each patient gender and age group.

Methods: A database of a large UC company in the greater NYC area was searched for patients with positive SARS-CoV-2 PCR tests who also had a CXR performed at the same UC visit between March 9 and March 24, 2020. Eleven board-certified radiologists, who were informed of the patients' COVID-19 diagnosis, each reread a subset of CXRs, but were instructed to disregard the initial reading. Their readings were then classified as being either *normal*, or showing *mild*, *moderate*, or *severe* disease. They subsequently characterized specific findings. Patients were categorized by gender (male or female) and age group (18-40, 41-63, 64-90 years of age). Correlation of severity and characteristics of

CXR findings with age and gender was examined using a Pearson Chi-squared test.

Results: Of the 636 CXRs of patients with confirmed COVID-19 reviewed, 363 were from male (57.1%) and 273 were female (42.9%). Patient ages ranged from 18 to 90 years of age, with most (493 patients, or 77.5%) being 30–70 years old. The average age of men and women was not significantly different (51 vs 49 years, respectively). The percentage of patients in each age group and of each gender who demonstrated *normal*, *mild*, or *moderate-severe* abnormalities was not significantly different. Additionally, there were no significant differences in the types of CXR abnormalities, when present, between ages or genders. There was a trend toward multifocal and bilateral disease being more common among women, but this did not reach statistical significance.

Discussion: This is the first study to explore the effects of age and/or gender on CXR findings among patients with COVID-19 in an ambulatory setting. In this subset of patients, neither age nor gender had a statistically significant effect on the severity or type of CXR findings.

Introduction

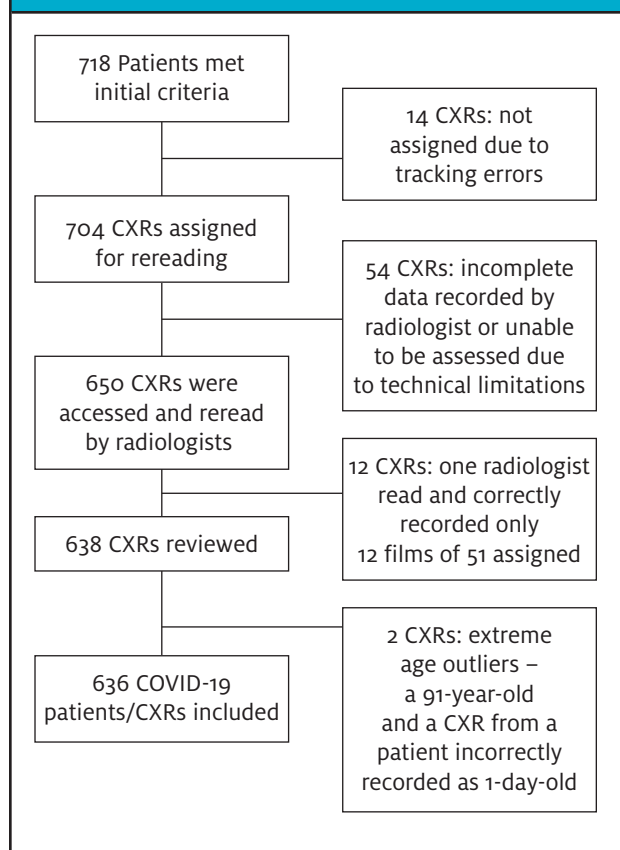
The SARS-CoV-2 virus caused the COVID-19 pandemic in early 2020, affecting millions of individuals around the world.^{2,3} Acute care clinicians have strived to increase their understanding of the disease for purposes of diagnosis, prognosis, and management of afflicted

patients as well as to mitigate the extent of disease spread.

Age and gender have been shown to influence the likelihood of developing severe illness and mortality in some series of patients with COVID-19. Multiple series of hospitalized Chinese patients have demonstrated a

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Figure 1. Flowchart of All Confirmed COVID-19 Patients Who Were Seen in the UC Centers, March 9–24, 2020 and Also Underwent CXR



linear increase in the risk of death with increasing age.^{4,5} While several studies have failed to demonstrate a relationship between gender and risk of death, Shi, et al did find a significantly higher risk of severe disease among men in a group of 487 hospitalized patients in central China.⁶ However, the role of age and gender, as it pertains to radiographic disease severity, has not been examined among ambulatory patients.

Disease severity differs between ambulatory patients and those requiring hospitalization. Imaging among hospitalized patients tends to demonstrate abnormalities with much higher frequency than among outpatients (84% vs 42%).^{1,7} Overall, the imaging changes tend to progress through the illness and peak on days 10–12.^{3,8}

While many early observational studies have focused on the value of chest-computed tomography (CT) in diagnosing COVID-19 pneumonia,^{3,9-11} this imaging modality is rarely available in UC centers. Plain film radi-

ography of the chest is an established, safe, cost-effective, and nearly ubiquitous imaging modality in urgent care centers. Because the vast majority of patients with COVID-19 present with mild respiratory symptoms, evaluations are much more likely to take place in ambulatory settings, such as UC centers.² However, to date, most studies have examined the role of CXR in the evaluation of hospitalized patients with COVID-19.

In the only other study to date examining the relationship between age, gender, and severity of CXR findings in patients with COVID-19, Borghesi, et al reviewed CXRs of 783 hospitalized Italian patients with confirmed COVID-19 and found that the severity of CXR abnormalities was positively correlated with increasing age.¹² They also found that men had a higher likelihood of severe abnormalities than women, but only among individuals aged 50–79 years of age. No prior studies have examined whether specific patterns of CXR findings are correlated with age or gender.

The aim of this study was to determine if there were differences in CXR findings in ambulatory patients based on age (primary endpoint) or gender (secondary endpoint).

Methods

The electronic medical record (EMR) database of a large UC network in greater New York City (NYC) and New Jersey (NJ) was queried, identifying 718 patients with positive SARS-CoV-2 PCR testing who also had a CXR during a UC visit between March 9 and March 24, 2020 (during the time that greater NYC was the epicenter for COVID-19). These patients' CXRs were initially divided among 14 board-certified radiologists. However, due to technical issues, only 12 radiologists were able to participate in the study. These individuals were assigned approximately 50 CXRs each, except for two of the radiologists who reviewed an additional 50 CXRs to compensate for the two radiologists who were unable to participate.

Most participants read 47 to 100 films. One radiologist, however, read only 12 films. These readings were excluded from this study because the number of cases was far below the contributions of the other participants. This resulted in a total analyzed sample of 636 CXRs (Figure 1).

The participating radiologists were given oral and written instructions to first categorize films as *normal*, *mild*, *moderate*, or *severe* disease. For those classified as abnormal, they were asked to describe the specific findings. The initial CXR readings were part of these

patients' medical records, but the radiologists were instructed to disregard the initial reports when rereading the films. Participating radiologists were informed prior to rereading that the CXRs were from patients with confirmed COVID-19.

Statistical analysis

All statistical analyses were conducted using the statistical program PSPP. The Pearson two-tailed chi-squared test was used to analyze categorical tables and a two-tailed t-test was used to analyze the combination of categorical and interval data. Findings for which there were no telltale CXRs among certain groups (eg, young patients with pleural effusions) were excluded from the chi-squared analysis because empty cells render interpretation problematic.

Patients were divided into three general groups based on phases of adulthood: young adult (18–40 years), middle-aged (41–63 years), and elderly (64–90 years). CXR reads were also divided into three categories: normal, mildly abnormal, and moderately/severely abnormal. Because there were relatively few severely abnormal CXRs, the moderate and severe categories were combined to improve the robustness of our statistical analyses. Practically speaking, the distinction between moderate and severe CXR abnormalities is also of less clinical significance than the distinction between normal and mild, for example.

Results

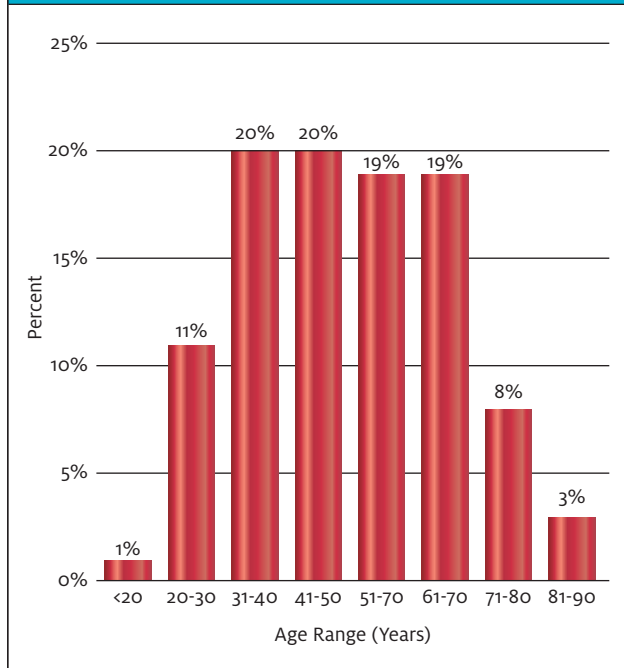
Of the 636 CXRs reviewed among patients with confirmed COVID-19, 363 were male (57.1%) and 273 were female (42.9%). Patient ages ranged from 18 to 90 years of age, with most (493 patients, or 77.5%) being 30–70 years old (Table 1 and Figure 2). The average age of the women (49 years) in this sample was 2 years younger than the average age of the men (51 years), although this difference was not statistically significant. ($t=1.65$, $p=.10$).

Table 2 summarizes the overall findings of radiologists when rereading the CXRs. Notably, among the 636 CXRs included, 58.3% were read as normal. Among the abnormal cases (41.7%), 195 were classified as mild disease, 65 were classified as moderate disease, and five were classified as severe disease. Interstitial changes and ground glass opacities (GGO) were the predominant descriptive findings in 151 (23.7%) and 120 (18.9%) of the total, respectively. Location of the abnormalities was in the lower lobe in 215 (33.8%), bilateral in 133 (20.9%), and multifocal in 154 (24.2%). Effusions and lymphadenopathy were uncommon.

Table 1. Demographics of Gender of UC Patients with COVID-19 Whose CXRs Were Reread by the 11 Radiologists (N=636)

Gender	n (%)
Male	363 (57.1%)
Female	273 (42.9%)

Figure 2. Age Distribution (N=636)



“When examining for associations of abnormalities with age and gender, neither showed a statistically significant relationship with the classification of CXR severity.”

When examining for associations of abnormalities with age and gender, neither showed a statistically significant relationship with the classification of CXR severity (Table 3). In other words, the likelihood of normal, mild, moderate/severe abnormalities was the same across age groups and genders.

With patients having abnormal CXR findings (mild or moderate/severe), there were no statistically significant differences based on gender. Although women were more likely to have multifocal and bilateral abnormalities, this difference fell short of the usual level of statis-

Table 2. Characteristics of the Radiographic Findings Reported by the Panel of 11 Radiologists Who Reread CXRs of COVID-19 Patients Seen in Greater NYC UC Centers from March 9 to 24, 2020 (N=636)

Radiologic properties	Categories	n (%) of total
Severity	Normal	371 (58.3%)
	Mild	195 (30.7%)
	Moderate	65 (10.2%)
	Severe	5 (0.8%)
Type of infiltrate	Interstitial	151 (23.7%)
	Ground glass opacities (GGO)	120 (18.9%)
	Consolidation	34 (5.3%)
Location	Lower	215 (33.8%)
	Upper	128 (20.1%)
	Diffuse	6 (0.9%)
Focality	Multifocal	154 (24.2%)
	Focal	71 (11.2%)
Laterality	Bilateral	133 (20.9%)
	Peripheral	225 (35.4%)
Centrality	Central	45 (7.1%)
	Effusions	2 (0.3%)
Other	Lymphadenopathy	2 (0.3%)

Note: Numbers do not add to 100% as some patients had more than one finding.

tical significance (ie, $p < 0.05$). None of the other types of abnormalities showed any differences related to gender. (See **Table 3**.)

With patients having abnormal CXR findings (mild or moderate/severe), there were no statistically significant differences based on a patient’s age. Similarly, no specific patterns of radiographic abnormalities were correlated with age.

Limitations

Studies of this type are inherently limited due to their retrospective and observational nature. Only a single CXR series was obtained for each patient. Because patients presented at various phases of illness, it is impossible to know how their CXR appearance may have progressed through their clinical course. Additionally, the patients’ underlying health histories and baseline CXRs were not available and therefore, it is unclear whether abnormalities identified may be related to chronic conditions.

Table 3. CXR Severity by Age range and Gender (N=636)

Age (p-value 0.35*)			
	Normal	Mild	Moderate/Severe
Age (years)	n=372	n=197	n=67
18–40	58.5%	34.1%	7.3%
41–63	59.6%	28.4%	12.1%
64–90	56.4%	31.5%	12.1%
Gender (p-value 0.49**)			
Male	56.5%	32.5%	11.2%
Female	61.2%	28.9%	9.9%

*Pearson Chi-square, df=4, 2-tailed; **Pearson Chi-square, df=2, 2-tailed

“The direction of any associated bias is difficult to predict because many diverse factors influence providers’ decisions about imaging patients with respiratory complaints.”

Regarding CXR interpretation, although the radiologists were instructed not to let the initial CXR read or knowledge of COVID-19 diagnosis influence their interpretation, they were not blinded to this information. Therefore, this knowledge might have impacted their CXR classifications. We also did not perform an assessment of inter-rater reliability between radiologists on the rereads. The difference in percentage of normal classification across participants, however, suggests that individual differences among radiologists do exist.

The initial CXRs were obtained at the discretion of the treating provider. It is likely that variations in the clinical approaches and CXR utilization among providers affected which patients had CXRs obtained and, therefore, available for analysis among those with COVID-19. The direction of any associated bias is difficult to predict because many diverse factors influence providers’ decisions about imaging patients with respiratory complaints.

Discussion

This report is a secondary analysis examining the effects of gender and age on a large cohort of COVID-19 patients presenting to a group of greater NYC UC centers. In this large group of ambulatory patients with confirmed COVID-19, neither age nor gender affected the

Table 4. CXR Results by Gender (N=636)

Abnormality	Male	Female	
	n=363	n=273	p-value
Normal	61.2%	56.5%	.23
Interstitial	22.3%	24.8%	.47
GGO	16.1%	21.0%	.12
Consolidated	4.0%	6.3%	.20
Upper	18.0%	21.8%	.24
Lower	30.8%	36.1%	.16
Diffuse	1.5%	0.6%	.24
Focal	9.5%	12.4%	.26
Multifocal	20.5%	27.0%	.06
Bilateral	17.5%	23.4%	.07
Peripheral	34.4%	36.1%	.66
Central	6.6%	7.4%	.68
Effusion	0.4%	0.3%	.84

Analysis: Pearson Chi-square, df=1, 2-tailed

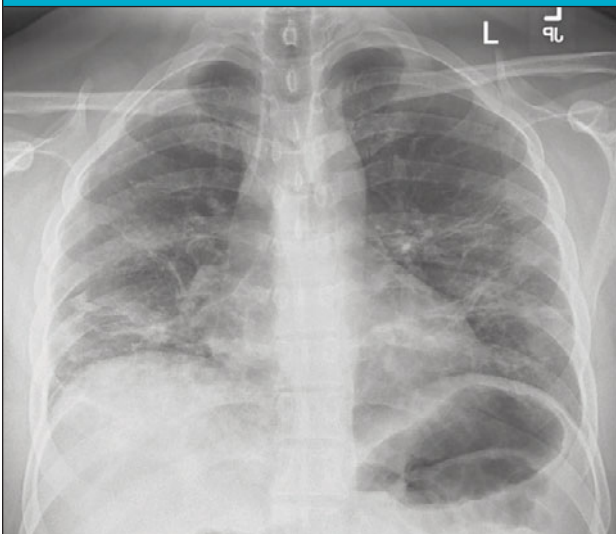
Table 5. CXR Results by Age Range (N=636)

Variable	Age Ranges (years)			p-value
	18-40	41-63	64-90	
	n=205	n=282	n=149	
Normal	58.5%	59.5%	56.4%	.81
Interstitial	22.0%	22.0%	29.5%	.17
GGO	20.5%	19.5%	15.4%	.46
Consolidated	5.9%	4.6%	6.0%	.76
Upper	22.4%	18.4%	20.1%	.55
Lower	32.2%	33.7%	36.2%	.73
Focal	9.3%	12.1%	12.1%	.58
Multifocal	24.4%	23.7%	24.8%	.97
Bilateral	22.4%	19.9%	21.8%	.79
Peripheral	36.6%	35.8%	32.9%	.76
Central	8.3%	6.0%	7.4%	.62

Analysis: Pearson Chi-square, df=2, 2-tailed

CXR findings in a significant way. Only one other study to date has examined the effects of age or gender on radiographic abnormalities in patients COVID-19. Interestingly, Borghesi, et al did find significant differences in the CXR findings among hospitalized men and women of different ages with COVID-19, with the likelihood of CXR abnormalities being higher in older

Figure 3. Multifocal mixed central and peripheral linear infiltrates extending out to lung periphery with superimposed, ill-defined patchy opacities at the bilateral lung bases. Lung apices spared. Overall low volume, study concerning for hypoventilation.



X-ray courtesy of Experity Teleradiology (www.experityhealth.com/teleradiology.)

“The data from our sample indicate that age and gender do not seem to affect the likelihood or variety of CXR abnormalities seen at the time of UC presentation.”

patients and men.¹²

Apart from differences between hospitalized and ambulatory patients, the discrepancy in findings between these studies is also likely largely attributable to the differences in disease severity between the population in each study. In the Borghesi, et al study, multiple CXRs were reviewed for each patient and only the most severely abnormal CXR was included.¹² Whereas, in our study, only a single CXR was reviewed from each patient when they presented to an outpatient setting. It is probable that some of these UC patients developed more severe radiographic findings later in the course of their illness.

Additionally, patients in this study were community-dwelling; the older patients likely had a disproportionately high functional status compared with average individuals of the same age. For example, an 85-year-old

who is presenting to an ambulatory care setting is generally healthier than an average patient of the same age, whereas a 45-year-old patient presenting to UC is more likely to be of average health for their age. This phenomenon would tend to dilute or negate effects of age due to a skewing of the sample coming from the healthier tail of the distribution for any age especially among older patients.

Regardless of whether or not age or gender has any effect on CXR appearance at later or more severe stages of illness, the data from our sample indicate that age and gender do not seem to affect the likelihood or variety of CXR abnormalities seen at the time of UC presentation. This finding is of value to the UC clinician because it suggests that neither age nor gender should strongly influence the decision to obtain a CXR with confirmed or suspected COVID-19.

Conclusion

In this large group of ambulatory UC patients with confirmed COVID-19, neither age nor gender significantly affected the likelihood of more severe CXR abnormalities, nor the specific types of abnormalities. ■

(This study was IRB-approved and granted waiver of consent and full waiver of HIPAA authorization. No funding was obtained for this study.)

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Caring for the Homeless During the COVID-19 Pandemic

Urgent message: Executive orders to shelter in place and advice from public health officials to stay "home" unless you absolutely have to go out or are deemed an essential worker lose their meaning for those without a place to lay their heads. Whether you view homeless Americans as ordinary people who may have had a few bad breaks or a blight on society, the fact is there are public health implications when anyone with a highly contagious disease is left without medical care.

JANET M. WILLIAMS, MD, FACEP

Shelter at home. Wash your hands. Use a tissue and properly dispose of it. See your primary care if you are not feeling well. The advice goes on and on. But what if you are homeless? What if you do not have ready access to soap and water, or hand sanitizer, or tissues, or medical care?

Universally, efforts to contain and mitigate pandemic diseases such as COVID-19 leave out a vulnerable population: people experiencing homelessness (PEH). An estimated 575,000 Americans are homeless.¹ The current COVID-19 outbreak will likely wreak havoc in PEH due to higher susceptibility to illness, suboptimal personal hygiene and sanitation, limited ability to self-quarantine, and difficulty accessing medical care.

PEH are more likely to suffer from chronic and uncontrolled illnesses such as chronic obstructive pulmonary disease, diabetes, and hypertension, which place them at higher risk for complications due to COVID-19.² The current pandemic is expected to cause up to 21,000 hospitalizations and 3,400 deaths among PEH.³

The goal of this article is to describe the challenges specific to pandemic preparedness for PEH and to present strategies to ensure their health and safety during the COVID-19 crisis.

Adoption and integration of the recommendations and resources from government, healthcare, and national housing organizations are critical in overcoming system deficiencies that impact the health of PEH.



National emergency declarations such as the 1135 and the 1115 Medicaid waivers are designed to afford states more flexibility in addressing the unique needs of PEH by assisting with coverage of uninsured people.

Public health agencies at all levels, ranging from the Centers for Disease Control to local health departments,

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Table 1. Number and percentage of residents and staff members with COVID-19 diagnosed by testing, symptom screening, or independent healthcare evaluation at three Seattle and King County (WA) homeless shelters and day centers, March 30–April 11, 2020

Method of diagnosis	Number (%) with COVID-19 diagnosis	
	Residents assessed (N=195)	Staff members assessed (N=38)
Testing event 1	15 (8)	4 (11)
Testing event 2	16 (8)	2 (5)
Symptom screening	2 (1)	—
Evaluated elsewhere	2 (1)	2 (5)
Total	35 (18)	8 (21)

Adapted from: Tobolowsky FA, Gonzales E, Self JL, et al. COVID-19 Outbreak Among Three Affiliated Homeless Service Sites — King County, Washington, 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69:523–526.

strive to detect, prevent, and respond to pandemics and assist with provision of non-food supplies and personal protective equipment (PPE).

Medical organizations from regional health systems, hospitals, and primary care clinics to urgent care centers serve as the infrastructure for provision of care for patients with acute medical needs.

The Department of Housing and Urban Development, local housing authorities and shelters, and transitional homes must coordinate to optimize the use of limited funding and resources to provide safe accommodations for PEH. Researchers estimate that it may cost as much as \$11.5 billion to provide 400,000 new shelter beds, including approximately 200,000 beds suitable for isolation/quarantine to care for PEH at risk for or suffering from COVID-19.¹ Fortunately, Congress is responding to the coronavirus pandemic by developing a relief package to provide billions of dollars for state and local governments to provide emergency protective measures such as shelter and other critical services for PEH.

Barriers to Mitigating Spread of COVID-19 in Homeless Populations

Congregate living environment

Everything about the shelter environment promotes group activities, including sleeping, eating, and socializing, usually within a confined space. Of concern is the potential for widespread transmission of COVID-19 among PEH in shelters due to inadequate access to hygiene fundamentals such as soap, clean water, adequate ventilation, and sanitation. The situation is further complicated because disseminating up-to-date information about COVID-19, particularly regarding the need for social distancing and hand washing, has been hampered by limited access to the internet or other media.

Trimorbid conditions among PEH

The high prevalence of concurrent physical, mental health, and substance abuse problems (ie, trimorbidity) among PEH place them at higher risk for COVID-19-related morbidity and mortality and impedes their access to medical care. Some models estimate PEH who contract COVID-19 are twice as likely to require hospitalization, 2–4 times more likely to require critical care, and 2–3 times more likely to die.³ In addition to baseline comorbidities, limited access to nutritious food further puts this population at risk for poor outcomes.

Shelter staffing issues

Shelters usually depend on volunteer staff for day-to-day operations. Staffing shortages may occur as volunteers (often older individuals with underlying medical conditions) are forced to stay home due to concerns for their own health. Shelters may lack appropriate supplies (eg, PPE, disinfectant cleaning products, adequate sinks/showers) needed to prevent viral spread. Staff who continue to work require training in medical-grade facility cleaning, screening procedures for COVID-19, and techniques on how to protect themselves. It may also be necessary to provide psychological and behavioral resources to reduce stress and help staff cope.

Infection Prevention for Homeless Shelters

Hand washing

Unfortunately, the recommended preventive measures are not easily accomplished for PEH for reasons previously mentioned. Motivating and convincing people to change their behaviors is difficult under the best conditions. Education, environmental, and policy changes may all play a role in encouraging new practices such as handwashing. Shelters should provide verbal and posted

information about the dangers of COVID-19 and stress the need to wash hands, contain coughs, self-quarantine as able, and other pandemic-specific behavioral recommendations. The CDC provides informational signs that are ready to print and post which explain symptoms of respiratory illness and the importance of self-care and hygiene. Environmental changes to consider include adding portable sinks to increase access to handwashing, and/or adding hand sanitizer (at least 60% alcohol solutions) at all points of entry and exit. All surfaces (especially those commonly handled such as doorknobs, faucets, phones) should be routinely cleaned and disinfected with products identified as effective against SARS CoV-2. Two percent chlorine bleach solution (1 tablespoon of bleach in 1 quart of water) is effective. Collaboration with public health agencies may provide a path for obtaining needed supplies for shelter personnel such as gloves, masks, goggles, cleaning supplies, thermometers (ideally 1 for every 10 people), and extra linens.

Social distancing

The goal of social distancing is to limit transmissibility of the virus by restricting the number of people in any given place simultaneously. The standard recommendation is that people stand at least 6 feet apart and minimize face-to-face interactions. It is important to explain to shelter guests and staff why social distancing is so important. Guests should wear masks when showing signs of COVID-19 (fever, cough, dyspnea). Shelter staff should be masked when interacting with symptomatic guests, cleaning, or entering an area where a symptomatic person or someone who may be exposed to a symptomatic person has been. Anyone in close contact with a symptomatic person should ideally have a mask, eye protection or face shield, and gloves. Nonessential services should be eliminated to reduce the number of people and promote social distancing among all staff, guests, and vendors.

Experts recommend reducing the number of residents per shelter, ensuring at least 100 square feet of space per bed, aligning beds so people sleep head-to-toe, using temporary barriers between beds, and improving air circulation and ventilation in the shelter.⁴

Mealtimes should be staggered to reduce crowding in shared eating facilities.

Similarly, bath times should be staggered to reduce number using shower facilities at once. Designating one bathroom for ill guests, renting additional sinks to facilitate handwashing practices, and ensuring bathrooms have soap and drying materials for handwashing is also

important.

The number of people in recreation areas at one time should be reduced, and chairs spaced at least 6 feet apart. Public or nonessential group activities, events, and visitors should be cancelled. For essential activities, the number of attendees at one time should be limited to less than 10.

Preemptive cohorting

It is important to identify individuals at high risk for COVID-19-related morbidity/mortality as early as possible in order to quarantine them, even if asymptomatic. Guests who are over 60 years of age, have diabetes, take immunosuppressive drugs or chemotherapy, have an autoimmune disease, or have lung or heart disease will likely benefit from a preemptive move to a setting where the risk of contracting COVID-19 is lower. Emergency accommodations such as vacant hotels or underutilized facilities often provide space for private sleeping and bathing.

Shelter Policies and Procedures for Isolation

Designation of isolation room and screening processes

Each shelter will need to develop a protocol for screening all shelter guests for exposure, symptoms, and signs (body temperature and pulse oximetry readings) in order to identify the need for isolation. Individuals who screen positive should be provided a mask and isolated in a predesignated area near a bathroom within the shelter (even office space works). The guest should stay in the room and have meals brought to them. The room and bathroom should be cleaned more frequently and there should be hand sanitizer, tissues, and waste can at bedside. The number of people and staff in contact with a guest with suspected COVID-19 should be minimized. If anyone exhibits severe symptoms such as shortness of breath, cyanosis, chest pain, dizziness, confusion/ altered level of consciousness, or seizures, 911 should be called immediately.

Isolation process

The guest's primary care physician should be contacted if they have one, as should the community liaison to assign the guest to a new isolation site (typically a local hotel). Ideally, facilities have been identified that can accommodate special circumstances based on gender, age, substance use, and/or history of mental illness. An involuntary isolation order signed by the county health commissioner may be issued requiring the guest to stay at the shelter or other designated location.

Other levels of quarantine include voluntary and

involuntary, by court order. The county health department typically will visit the guest to conduct an initial health assessment and provide any necessary healthcare items, such as a thermometer for daily monitoring. Daily phone calls from a public health nurse may be instituted to verify the guest has remained in isolation and symptoms are not worsening.

Transferring to outside facility for isolation

Guests being transferred to another facility should be informed of expectations for packing limited belongings, the medical transportation process, need for the guest and driver to wear appropriate PPE, the process for guest intake at the new facility, and expectations for staying in the new room (eg, no visitors, no use of drugs/alcohol). Food, services, medications, and other support are typically provided, although guests with complex medical problems may require additional coordination.

Testing for COVID-19

Current CDC recommendations are to consider testing symptomatic patients based on clinical judgement. (Those recommendations change frequently, so it would be advisable to consult the CDC website frequently for updates.) The CDC prioritizes COVID-19 testing in hospitalized patients with signs and symptoms of infection, high-risk symptomatic patients with underlying conditions, and symptomatic patients who have had close contact with suspected or confirmed COVID-19.⁵ Any patient who is classified as a person under investigation (PUI) for COVID-19 should be reported to the state health department and CDC's Emergency Operations Center. Other causes of illness (such as influenza) should be ruled out as able. Patients with mild illness who are otherwise healthy should stay at the shelter under self-quarantine. Higher-risk patients with mild illness should consult a healthcare provider.

Cleaning vacated spaces

Once a guest has vacated the shelter, common areas and rooms the ill person used should be cleaned and disinfected thoroughly. The door should be closed to seal off sleeping quarters and the windows opened for at least 24 hours, if possible, before cleaning bathrooms. Cleaning staff should wear appropriate gloves, gowns, and PPE. Do not shake dirty laundry, but wash linens and clothing left behind separately from other shelter linens.

Administrative records

Isolation protocols should include tracking the daily census; screening results, including body temperature of staff and guests; stages of disease among guests (exposure, pending tests, symptomatic vs asymptomatic, recovered); status of isolation room guests; supply and equipment inventory; and status of relocated guests.

Criteria for release from isolation

In order to be released from isolation, the PUI must have had at least 3 days since resolution of symptoms, at least 3 days of no fever without medication, and at least 7 days since onset of symptoms. Persons who have confirmed COVID-19 and had symptoms must exhibit a similar resolution of fever and symptoms, as well as a negative PCR test from two consecutive swabs collected at least 24 hours apart.

Summary

The current COVID-19 pandemic presents a crisis for PEH largely due to the negative synergistic effect of the virus's virulence and transmissibility and the poor baseline health of this population. There are definite steps that federal, state, and local government and health organizations can take to assist and aid agencies that serve PEH. By implementing education, training, and targeted protocols, shelters can leverage existing resources to improve hygiene, sanitation, social distancing, screening for fever and hypoxia, and isolation protocols to protect this vulnerable population.

The success of providing care for PEH during this crisis will depend on the alignment of public health, medical centers and providers, state and local policy makers, government agencies, and the public around a common goal of ensuring the health and safety of PEH. ■

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

If you would like to submit a case for consideration, please email the relevant materials and presenting information to editor@juqm.com.

A 67-Year-Old Male with Shoulder and Neck Pain



Figure 1.

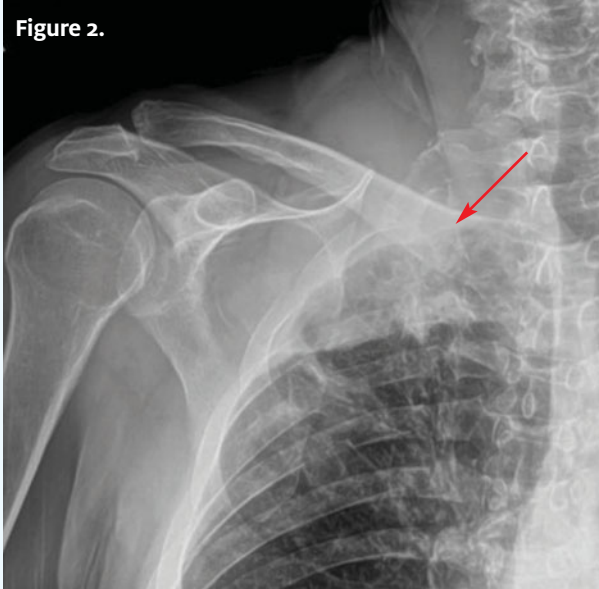
Case

The patient is a 67-year-old man who presents with pain in his right shoulder and posterior right neck pain that he says radiates to his right arm. He reports that he first noted the pain “a few months ago” and is seeking care now because it has become more severe and “constant.”

Review the image taken and consider what the diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

Figure 2.



Differential Diagnosis

- Hill Sachs deformity/fracture
- Anterior shoulder dislocation
- Posterior shoulder dislocation
- Calcific tendonitis
- Pancoast tumor

Diagnosis

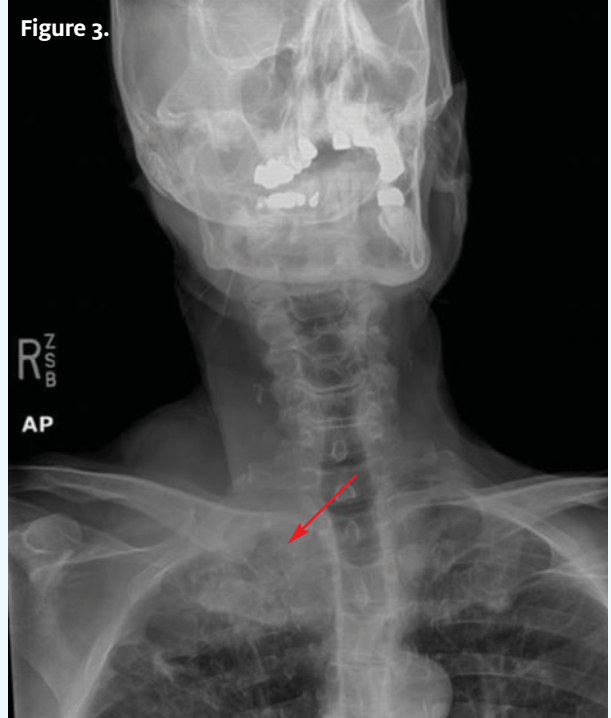
The patient was diagnosed with Pancoast tumor, a primary bronchogenic carcinoma in the apical region of the lungs. It is also referred as a superior sulcus tumor due to proximity to the superior pleuro pulmonary sulcus of the apical lung.

The chest x-ray that was also ordered (**Figure 3**) makes the diagnosis clear, without the distraction of the history of shoulder pain and the imaging focus on the shoulder.

Learnings/What to Look for

- This tumor has unique characteristics and presentations due to its proximity to the superior thoracic aperture, apical pleura, subclavian vessels, brachial plexus, stellate sympathetic ganglion, recurrent laryngeal nerve, superior mediastinum, ribs, and the thoracic spine
- Initial symptoms are usually localized as shoulder or neck pain

Figure 3.



- Radiographic findings include an apical mass or asymmetric unilateral pleural thickening
- In advanced stage one may see lytic lesions of the ribs or spine

Pearls for Urgent Care Management and Considerations for Transfer

- Referral to oncology is warranted
- Treatment of the Pancoast tumor differs from other lung carcinomas due to anatomic location and proximity to neurovascular structures complicating a surgical procedure. Presurgical chemo and radiation therapy are often utilized to downsize the tumor. Surgical excision may require removal of the entire upper lobe with adjoining involved neurovascular, bony and lymph node structures

Acknowledgment: Images and case provided by Experity Teleradiology (www.experityhealth.com/teleradiology).



A 24-Year-Old Male with Papules in His Mouth



Case

The patient is a 24-year-old male who presents for a pre-employment physical. While undergoing his exam, he mentions being “curious” about tiny papules he noticed recently in his mouth on the inside of his cheek. They seemed to be a group of slightly yellow lesions, present on both sides of his mouth. He reports that they have been there “for a few months,” but they have not caused discomfort so he hasn’t sought care.

Review the image above and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

**Differential Diagnosis**

- Sebaceous hyperplasia
- Fordyce spots
- Rubeola
- Oral candidiasis

Diagnosis

This patient was diagnosed with Fordyce spots—superficial sebaceous glands seen on mucosal surfaces of approximately 80% of the population. Because they are so prevalent, their occurrence is considered a normal anatomic variation.

Learnings/What to Look for

- Fordyce granules are usually multiple and clustered, and are often found on the oral mucosa and the vermillion of the lips
- Fordyce granules are also often present on the genitalia. They are not associated with hair follicles
- The tiny papules can appear at any point in life but the incidence increases with age, probably associated with hormonal influences

Pearls for Urgent Care Management and Considerations for Transfer

- The lesions are asymptomatic. They can be present for years and the patient is usually unaware of their presence. No treatment is required

Acknowledgment: Images and case courtesy of VisualDx (www.VisualDx.com/JJUCM).



A 67-Year-Old Male with Classic Signs of Myocardial Infarction

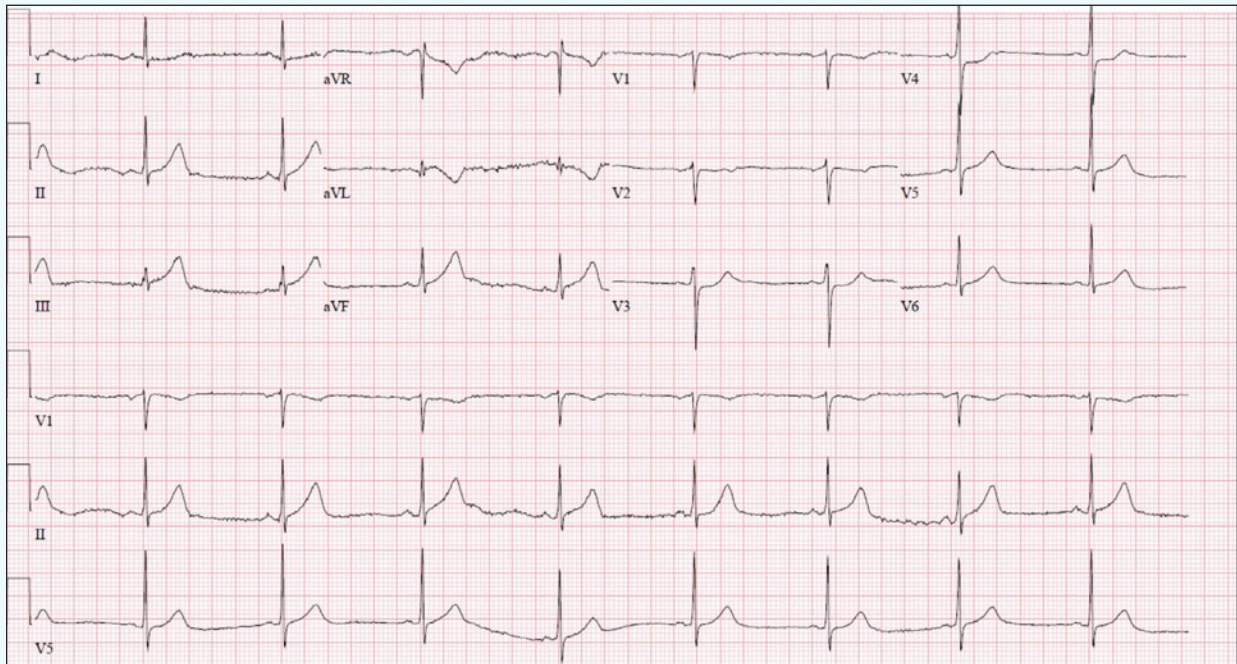


Figure 1. ECG upon urgent care arrival, 1 hour after pain onset.

Case

The patient is a 67-year-old male with no medical history who presents with severe chest pain radiating to his left arm that started 1 hour prior to arrival. The patient also endorses progressive dyspnea on exertion of six months duration.

View the ECG and consider what the diagnosis and next steps would be. Resolution of the case is described on the next page. (Case contributed by Gregory J Ducach, MD.)

THE RESOLUTION

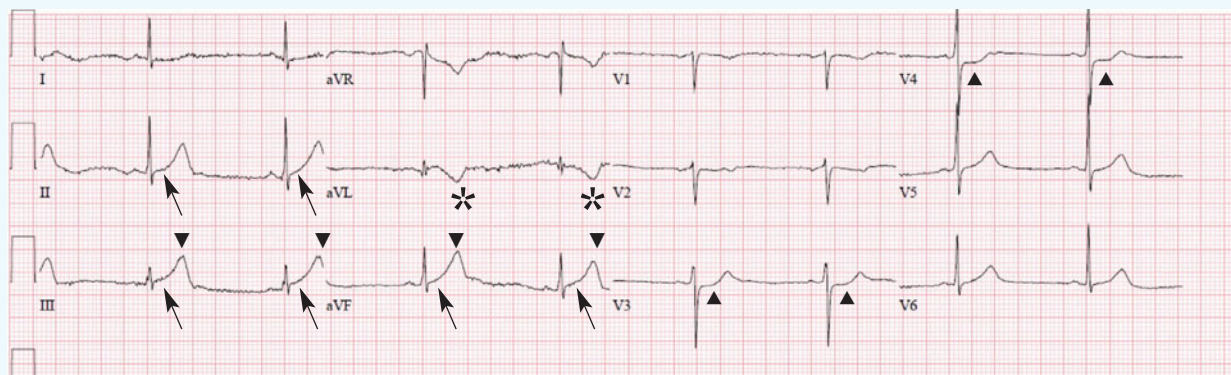


Figure 2. The initial ECG shows ST straightening in the inferior leads II, III, aVF (arrows) where the ST segments lose their normal concavity and start to “straighten.” The t waves in the inferior leads, while not large at first glance, are relatively large (or hyperacute) when compared to the size of their associated QRS complexes (▼). Often, the first reciprocal finding of an inferior myocardial infarction is a t-wave inversion in aVL (asterisks). Lastly, subtle reciprocal ST depressions can be seen in the precordial leads V3 and V4 (▲).

Differential Diagnosis

- Benign early repolarization (BER)
- Acute pericarditis
- Evolving inferior ST-elevation myocardial infarction (STEMI)
- Non-ST-elevation myocardial infarction (NSTEMI)
- Posterior myocardial infarction

Diagnosis

This patient was ultimately diagnosed with an inferior ST-elevation myocardial infarction (STEMI), seen here in the early stage of evolution.

The rhythm is sinus with a rate of 50 beats per minute, the axis and intervals are normal. The astute provider will recognize the subtle ECG changes that predict inferior myocardial infarction including ST-straightening in the inferior leads, hyperacute t waves in the inferior leads, and reciprocal changes in aVL, V3, and V4 (**Figure 2**). The patient’s symptoms, together with this ECG suggesting early inferior infarct, are worrisome for acute coronary syndrome and pending inferior STEMI. A repeat ECG performed 20 minutes later confirm inferior STEMI (**Figure 3**).

An inferior STEMI is present when at least two contiguous inferior leads (II, III, AVF) demonstrate >1 mm ST-segment elevation. Between 80% and 90% of inferior myocardial infarctions are due to occlusion of the right coronary artery, while the remainder are due to occlusion of the left circumflex artery.¹ Often, the atrioventricular node can be involved as it generally shares the blood supply with the inferior wall, which can manifest clinically as atrioventricular blocks.

Large inferior infarcts can also involve the right ventricle or extend to the posterior wall.¹ Right ventricular involvement is often reflected as concomitant ST elevation in V1, the most rightward-oriented precordial lead, and can be further supported by application of right sided leads, with ST elevation in V_{4R} being

the most sensitive.¹

ST elevation in lead III greater than ST elevation in lead II can also suggest right ventricular involvement.¹ This is prognostically significant, since right ventricular involvement implies a larger lesion and is associated with higher mortality rates.

Clinically, these patients are preload-dependent and may warrant intravenous fluid administration if hypotensive. It is key to avoid nitrates in this subset of patients as these are known to decreased preload.²

Posterior involvement is reflected electrocardiographically by horizontal ST depression in V1-V3, upright T waves, and tall R waves (late finding).³ Like right ventricular involvement, posterior extension implies larger infarctions, which carry a higher mortality rate.⁴ The ST depressions in V2-V6 manifested in the second ECG (**Figure 3**) may indeed represent posterior extension.

Benign early repolarization (BER)

Benign early repolarization is an ECG finding characterized by diffuse, fixed, concave-up ST-segment elevations without reciprocal changes, and notching of the terminal QRS complex.⁵ This finding is noted in 10%–15% of individuals presenting to emergency departments with chest pain and is considered as a non-pathologic normal variant. It is more prevalent in young, healthy individuals under the age of 50, and is relatively uncommon in those over the age of 50.⁵

Pericarditis

The pain associated with pericarditis is often described as sharp and pleuritic, relieved by sitting forward, and worsened by lying back. ECG findings of pericarditis include diffuse ST elevation, absent reciprocal changes, PR-segment depression, and sometimes a down-sloping ST segment known as “Spodick’s sign.” Like benign early repolarization, the ST segments of pericarditis

THE RESOLUTION

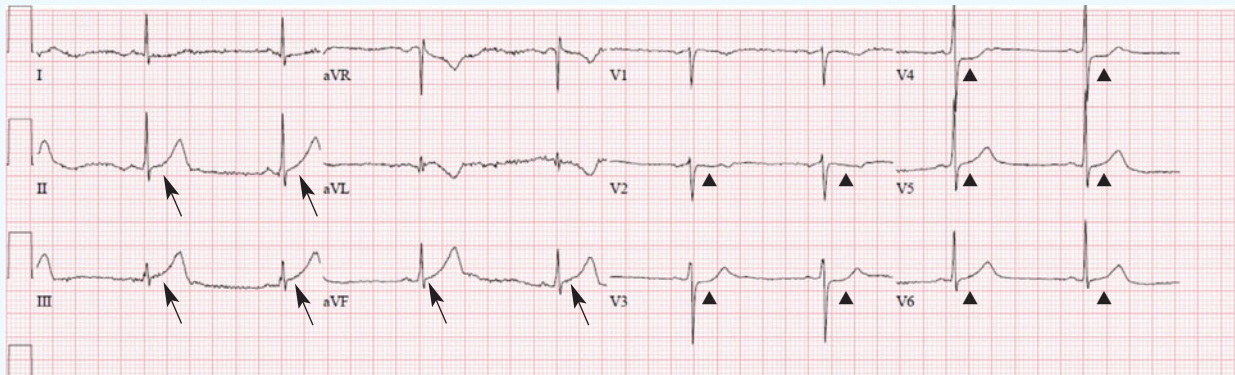


Figure 3. ECG performed 20 minutes later confirming the presence of an inferior MI. There is contiguous ST elevation in the inferior leads II, III, and aVF (arrows) with reciprocal ST depressions in aVL, and V2 through V6 ().

are concave up, contrasting with the ST segment of STEMI which is often flat or concave down. It is important to note, however, that while morphology is suggestive, it is only a guide to interpretation and should not be considered in isolation when differentiating STEMI from other causes of ST elevation.⁶

Non-ST-elevation myocardial infarction

NSTEMI is diagnosed specifically by evidence of acute myocardial injury via elevated cardiac biomarkers (troponin I or troponin T).⁷ Though this patient's initial ECG did not meet criteria for STEMI (owing to <1 mm ST elevation) and his initial troponin was not elevated, it is highly suggestive of an occlusive myocardial infarction. The subsequent ECG did meet STEMI criteria.

Learnings/What to Look for

- A new t-wave inversion in aVL can be the first electrocardiographic sign of inferior myocardial infarction
- Consider serial ECGs in patients for whom there is a suspicion for acute coronary syndrome, especially when presenting early in their course
- With inferior infarction, consider concomitant right ventricular involvement and avoid nitrates

Pearls for Urgent Care Management and Considerations for Transfer

- Administration of aspirin has a mortality benefit; administer 160-325 mg chewable aspirin with STEMI
- Immediate transfer to a percutaneous coronary intervention-capable facility is indicated in patients with suspected STEMI
- When transfer to a percutaneous coronary intervention-capable facility is unavailable or will result in delayed care (> 120 minutes), the urgent care physician should consider thrombolysis if possible⁸

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Clearing Up the Confusion in COVID-19 Testing

■ MONTE SANDLER

There are so many options available for coronavirus disease 2019 (COVID-19) testing. How do you know what test is best for your urgent care center?

The need for virus testing was and still is paramount in the fight against this COVID-19 pandemic. The American Medical Association introduced new Current Procedural Terminology (CPT) code 87635, “Infectious agent detection by nucleic acid (DNA or RNA); severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]), amplified probe technique” on March 13, 2020, also making the code effective that same date of service.

The Centers for Medicare and Medicaid Services (CMS) then provided Healthcare Common Procedural Services (HCPCS) code U0001, “CDC 2019 novel coronavirus (2019-nCoV) real-time RT-PCR diagnostic panel” to be used only by those locations where the CDC sent their test kits. The more common test code urgent care centers might see is HCPCS code U0002, “2019-nCov (COVID-19), any technique, multiple types or subtypes (includes all targets), non-CDC.” Both of these codes took effect April 1, 2020 for dates of service from February 4, 2020 forward. Your biller would use HCPCS code U0002 for any COVID-19 virus test not performed as described in CPT code 87635. The specimen type for all of the tests is from the nasal cavity.

The next tests we saw being developed were the severe acute respiratory syndrome (SARS) antibody tests, where serum and/or blood is collected and tested for IgG, IgM, and IgA. Again, the AMA worked quickly to update the CPT code description for 86318 to accommodate multiple antibodies, as well as create two new CPT codes to capture the tests appropriately:

- 86328, “Immunoassay for infectious agent antibody(ies), qualitative or semiquantitative, single step method (eg, reagent strip); severe acute respiratory syndrome coron-

avirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19])”

- 86769, “Antibody; severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19])”

Antibodies typically become detectable 1 to 3 weeks after the onset of symptoms. It is believed that this is the time where infectiousness is decreased and some degree of immunity from future infection has developed. However, much more data are needed to make a determination. To help minimize false positive test results, choose an assay with high specificity and also by doing what you can to make sure you are testing only those patients who have most likely been exposed to SARS-CoV-2.

As of this writing, the latest test we have seen to get approval from the Food and Drug Administration for Emergency Use Authorization (EUA) is the SARS antigen test that uses a nasal swab. There is no definitive HCPCS or CPT code for this test right now, but we were informed by the manufacturer of the only FDA-approved test that they have applied for a new CPT code to represent their product. Until that happens, our recommendation is to use HCPCS code U0002 for this particular test. This test will determine if the patient currently has the virus.

In deciding what test to purchase, you will want to consider what type of Clinical Laboratory Improvement Amendment (CLIA) waived certificate is required to perform the test in your urgent care center. CMS has stated that if the test is a point of care (POC) test and you hold a CLIA waiver certificate, you can perform and bill for the test.

Just as important in making a decision when considering the purchase of any of these tests is to make sure that the test has been approved by the FDA. You can find information on every test that has been approved by going to their website at <https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations#covid19ivd>. Here you can read the authorization letter from the FDA, including the instructions for use and the CLIA certificate required. For POC tests during the PHE period, you only need a CLIA waiver and not a certificate for moderate or high complexity as mentioned in the authorization letter. ■



Monte Sandler is Executive Vice President, Revenue Cycle Management of Experity (formerly DocuTAP and Practice Velocity).

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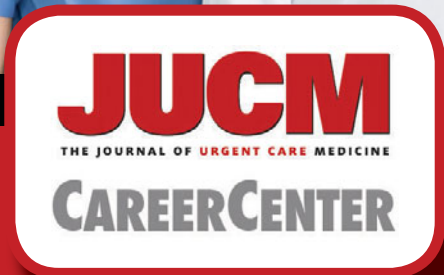
With an outstanding staff, Patient First supports you in providing excellent care.

We are looking for full- and part-time physicians.

With over 70 locations throughout greater Washington, D.C., Maryland, Virginia, Pennsylvania, and New Jersey, Patient First physicians have been providing urgent and primary care for over 35 years. In addition to flexible schedules and career advancement opportunities, we offer a comprehensive compensation package that includes:

- Excellent salary
- Loan assistance
- Licensure and certification assistance and reimbursement
- Relocation package
- Outstanding malpractice insurance
- Health, dental, vision, life, and disability insurance, plus more.

To learn more, contact Recruitment Coordinator Eleanor Hertzler at 804-822-4478 or eleanor.hertzler@patientfirst.com, or visit www.patientfirst.com/PatientFirstCareers



**FIND THE RIGHT JOB
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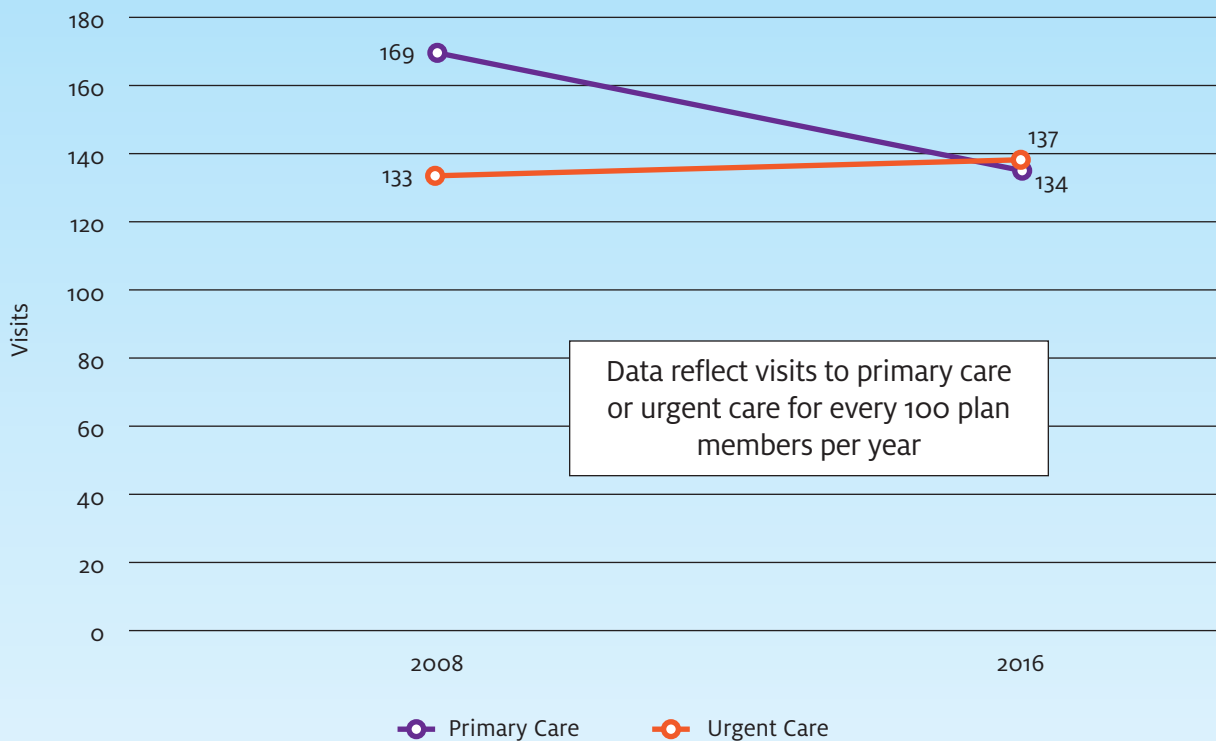


Visits to Primary Care Are Down— While Visits to Urgent Care Are on the Rise

Cost, convenience, and quality are features healthcare consumers cherish. The challenge for healthcare consumers is to find a facility that offers all three. While they can certainly find quality care that's convenient in their local emergency room, the cost for that care is high. A traditional primary care practice is also a good choice for quality care, but while the cost is going to be much lower than in the ED the patient may have to wait days (or longer) to be seen. Not so convenient.

Compared with those settings, only urgent care can claim cost, quality, and convenience as fundamental attributes. And according to data recently published in the *Annals of Internal Medicine*, based on 142 million primary care visits by patients insured by a single commercial payer, more people are choosing urgent care than ever before, at the expense of visits to traditional primary care.

URGENT CARE VISITS ASCEND WHILE PRIMARY CARE VISITS DECLINE



Data source: Ganguli I, Shi Z, Orav EJ, et al. Declining use of primary care among commercially insured adults in the United States, 2008-2016. *Ann Intern Med.* 2020;172(4):240-247.

We're here for you!

As a business partner to nearly half of the urgent care operations in the U.S., Experity is committed to supporting urgent care operations with helpful solutions, resources, and information.

Free COVID-19 & Telemedicine Technology

- Experity COVID-19 Response App: Check-in, Triage, Texting, and Telemedicine + social media kit

COVID-19 Information and Updates

- On-Demand Webinar: Managing Clinics During Uncertainty
- On-Demand Webinar: How to Properly Code the COVID-19 Outbreak
- On-Demand Webinar: Keep Your Clinic Open - Tapping Into Federal Emergency Funding
- Urgent Care Minute Newsletter

Tips for Taking Care of Your Clinic

- Blog: 5 Ways to Boost Urgent Care Clinic Morale
- Blog: Bridging the Social Distance with Effective Urgent Care Marketing
- Free Social Media Kit: How To Leverage Social Channels to Market Your Clinic During COVID-19

Stay strong, responsive, and helpful.
It's what urgent care has always been about.

Access these resources at: experityhealth.com/covid-19

EXPERITY

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