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Be the Way to Go*

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## No Troponin, No Problem: Reimagining Chest Pain Assessment in Urgent Care

■ JOSHUA RUSSELL, MD, MSC, FCUCM, FACEP and MICHAEL B. WEINSTOCK, MD

Most urgent care providers loathe when a patient checks in with chest pain because, typically, they are presenting because they're worried about a heart attack, and we're worried we don't have the tools to exclude this diagnosis. It's no surprise that we're met with consternation when we suggest they may have come to the wrong place for care. But is unavailability of troponin testing a worthy scapegoat? And is the practice of ED referral for nearly every patient with chest pain appropriate?

We propose we reevaluate the typical approach to chest pain in UC.

### Chest Pain Is Common, but MI Is Rare in Urgent Care

Chest pain is concerning to patients predominantly due to the possibility of myocardial infarction (MI), which represents between 1% and 3% of ambulatory visits for acute complaints.<sup>1</sup> While this is a small proportion of overall visits, it means we will see patients like this nearly every shift.

The vast majority of patients seeking care for acute chest pain aren't having a heart attack. In fact, only about 10%–12% of patients presenting to an ED with concerns for acute coronary syndrome (ACS) will go on to have a major adverse cardiac event (MACE), within the subsequent 30 days.<sup>2,3</sup> Rates of immediate ACS in ED populations are even lower (5%–10%).<sup>4</sup>

Frequency of short-term MACE and immediate ACS have not been specifically studied in U.S. urgent care populations, but are likely significantly less than those observed in the ED. The best estimate from the recent literature which can be extrapolated to UC comes from a European study of acute primary

care visits, where the investigators found the 6-week risk of MACE to be <5%.<sup>1</sup>

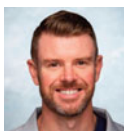
### Most Studies of Chest Pain Measure the Wrong Outcomes

Immediate risk of ACS and what to do with the patient in front of us reporting chest symptoms is our primary concern in UC. Unfortunately, most studies reporting outcomes of patients with acute chest pain fail to be directly relevant for the UC clinician not only because they're ED-based, but also because they report MACE over the subsequent weeks as the primary endpoint.

The concept of MACE was developed in the late 1990s by cardiologists as a composite endpoint for measuring outcomes after coronary interventions (PCI).<sup>5</sup> Patients are classified as having a MACE if they die, have an MI, or have a repeat PCI during some specified period of time, usually 4-6 weeks. While convenient for statistical analysis, these composite endpoints are difficult to interpret, as death and "needing to have a procedure" are far from equivalent outcomes. However, research using MACE counts these events equally.

A second problem is that the timeline for cardiac events in many studies is not relevant to our predicament.<sup>6</sup> We seek to know the near-term safety of the patient, ie, will they drop dead before they can make it to the ED if the chest pain comes back? If we knew they could make it to outpatient follow-up, we'd feel much more comfortable foregoing an immediate referral.

Unfortunately, a trend among many studies examining the various ACS clinical decision rules (CDR) is that they look at MACE over a longer time period (usually around 1 month) than is relevant



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to UC providers.<sup>6</sup> This is problematic because immediate risk for sudden death or serious MI in UC patients has not been specifically studied. In other words, it's certainly lower, but we really can't say how *much* lower without UC-specific data.

**Clinicians Do Not Tolerate Uncertainty with ACS**

A recent study by Samuels, et al found that half of 126 emergency providers of varying roles were uncomfortable with missing an acute myocardial infarction (MI) even 0.1% of the time.<sup>7</sup> Even though the American College of Emergency Physicians has stated that an ACS miss rate of 1% to 2% is acceptable—perhaps even unavoidable—acute care providers continue to approach patients with chest pain with an overabundance of caution. The rationale for this is related to fear of litigation, which is a valid concern as “failure to diagnose” MI remains a leading cause of U.S. malpractice claims.<sup>8</sup> But if we could say with confidence that there's a less than 2% chance of MI, we'd be well protected by the ACEP policy and the current stream of excessive ED referrals, testing, and admissions could be significantly mitigated. Over the past decade, several CDRs have been developed to address this very conundrum, with the HEART score being the most prominent and well validated. But there's a catch.

**Most ACS Prediction Tools Don't Work in Urgent Care**

Outpatient risk stratification tools for patients presenting with chest pain have been sought after for several decades. This is because clinician gestalt has been proven unreliable consistently in ruling out cardiac etiologies of chest symptoms. The aim of these CDRs was to take provider subjectivity out of the calculation; however, none have really met the needs of the UC clinician.

A number of these rules (eg, Marburg, Gencer, INTERCHEST) were developed for use in primary care. While it is helpful that these rules do not require troponin testing (or even an EKG), they were designed to predict whether patients' symptoms are due to coronary artery disease (CAD), not ACS. These tools not only fail to address the question we're trying to answer in UC, they also don't do an adequate job of even answering the question they were developed for (ie, CAD or not), with sensitivities ranging from 81% to 88%.<sup>1</sup>

The Bruins Slot rule is a unique tool developed with the aim ruling out ACS (rather than CAD) in an ambulatory setting without an EKG or troponin. While promising in concept, its real-world performance falls short of holy grail status with a sensitivity of ~90%.<sup>1</sup>

For ED patients, on the other hand, the recent development of the HEART and EDACS scores has proven to be highly useful in identifying a large proportion of patients presenting with concerns for ACS who can safely be discharged without further immediate work-up. These tools, especially the HEART score, have been widely adopted by emergency clinicians who now can discharge many more patients with chest pain and still sleep well

at night.<sup>9</sup> The catch: these tools all require serum troponin testing, which is only available in <10% of U.S. urgent care centers.

**A HEAR(-T) Score for the Rest of Us**

The HEART score, first developed in 2008,<sup>10</sup> is a clever acronym which combines 1) history, 2) EKG findings, 3) age, 4) CAD risk factors, and 5) troponin values to categorize patients as low, moderate, or high risk for ACS. It has been validated by multiple investigators and found to be a reliable means of risk stratifying patients with chest pain for risk of MACE over the subsequent weeks, with a sensitivity >98% for low HEART score patients.<sup>11</sup>

However, the necessity of troponin testing for the calculation of a HEART score has left UC providers feeling somewhat appropriately resigned to continue the status quo practice of near-automatic ED referrals for all but the lowest risk patients (read: anxious adolescents). This has resulted in an abundance of low-risk ED referrals with an accompanying line in the chart: “Cannot r/o ACS without troponin.” But do we actually need a troponin to exclude ACS in low-risk patients with chest pain?

While the HEART score may be the most well-known clinical decision tool for chest pain presentations, its lesser-known cousin the “HEAR” or “HEAR(-T)” score has been validated with promising results. It seems the dogma of mandatory troponin testing when considering ACS may not be as ironclad as we've thought—especially for the very low-risk patients.

In 2020, Smith, et al first described the use of a HEART score without troponin testing applied retrospectively to over 4,000 ED patients from the original HEART score study population.<sup>2</sup> They found that a HEAR score of 0 or 1 occurred in 9% of patients and was 97.8% sensitive for ruling out 30-day MACE in this population. As ACEP has codified the 2% acceptable miss rate for ACS, this sensitivity almost exactly meets the minimum necessary for an acceptable “test” to be clinically useful in this situation. (Interestingly, the addition of a single troponin in this study did not improve the sensitivity of the rule either.)

More recently, O'Reilly and colleagues published the results of an external validation of the HEAR score.<sup>12</sup> They performed a secondary analysis of data collected in a prospective cohort study of 820 patients presenting in an urban Canadian ED with symptoms concerning for ACS. Improving on the clinical utility of the original HEAR study, they included patients with known CAD (who were excluded from the initial study) and used both 30-day MACE and immediate risk of MI diagnosed within 24 hours of ED presentation as co-primary endpoints. Importantly, patients with ischemic changes or new arrhythmia on EKG, advanced renal failure, MI within the prior month, and those under 25 years of age were excluded.

They found that nearly 25% of patients had a HEAR score of 0 or 1. Confirming that low-risk patients are indeed low risk for bad near-term outcomes, only one patient in the low-risk group (score of 0 or 1) had an MI or 30-day MACE event. This

yielded a sensitivity of HEAR <2 for 30-day risk of MACE or immediate MI of 98.3–99.2%. Better yet, for patients with a HEAR score of 0, the sensitivity was 100%.

This study did not receive nearly the fanfare as the original HEART score studies among the EM community because troponin testing for chest pain patients in the ED is literally automatic. However, the authors failed to mention the potential utility of this decision rule for UC clinicians who don't have instant troponin testing.

Given that UC centers tend to see younger, healthier, lower acuity patients with chest pain compared to the ED population, it's likely that an even greater proportion of UC patients will actually fall into this low-risk (ie, score 0 or 1) group. This means that by applying the HEAR rule there is now an evidence base for discharging low-risk patients directly from UC. Coupled with the support of ACEP's clinical policy on acceptable ACS miss rates, UC providers should feel confident that this is a reasonable practice. Plus, this approach will be preferred by nearly every low-risk patient you see.

### Cautions in Applying the HEAR Score

If this is your first introduction to the HEAR score, hopefully you're feeling more enthusiastic than skeptical at this point. For the enthusiasts, however, it is important to remember the limitations of CDRs in clinical practice.

First, CDRs, including the HEAR score, are developed to exclude conditions, rather than to make diagnoses.<sup>13</sup> Patients with HEAR scores of 0 or 1 can be safely presumed to be low enough risk for discharge from UC without immediate ED referral, but patients with scores >1 do not necessarily warrant immediate 911 activation. It is just not appropriate to use the HEAR score to justify your disposition decision in such patients. In other words, a "negative" HEAR score is meaningful but, a "positive" result is not. In fact, the specificity of a score >1 for one of the adverse cardiac outcomes was an unimpressive 19%–26% in the O'Reilly validation study.<sup>12</sup>

Secondly, a CDR can only be applied validly to the same type of patients as those who were included in the studies from which it was derived. For example, patients under 25 years and with end-stage renal disease were excluded in the HEAR validation study. Therefore, the rule can't be relied upon in these patients unless a subsequent study produces similar results and does not exclude these patients.

### A New Approach When Considering ACS in UC

Hopefully at this point, you're reconsidering the "business as usual approach" to UC patients with chest pain. Although most patients with chest pain who present to UC are exceptionally low risk for ACS (and even more so for sudden cardiac death), providers are extremely intolerant of missing an MI. A recent ACEP policy statement, however, provides top cover for an

approach to evaluation for ACS that results in a miss rate <2%.<sup>14</sup>

While the original HEART score is inaccessible to most UC clinicians due to lack of troponin testing, the ability to obtain an EKG is nearly universal. So, when patients present to your UC center with chest pain or symptoms that create concerns for ACS, they can be approached initially in the standard fashion: rapid rooming, vitals, and EKG. If the patient has a STEMI or other clear signs of ischemia, 911 activation is appropriate. However, this is rarely the case. For the vast majority of patients, the EKG will be reassuring and you'll be able to take some time to look up and apply the HEAR score.

With a reassuring history and EKG, a large proportion of patients can safely be ruled out for immediate and 30-day MACE (provided the HEAR is score <2).

For the rest of the patients, we can continue to use our clinical gestalt, appreciating its shortcomings, as well as shared decision-making regarding the necessity of immediate vs PRN ED referral and 911 activation.

Applying this strategy in chest pain management rather than quickly dismissing patients due to lack of troponin testing will be appreciated by your patients, who certainly want to avoid the ED if possible. Most importantly, it will achieve this in an evidence-based fashion—avoiding bad outcomes not only for our patients, but for ourselves as well. ■

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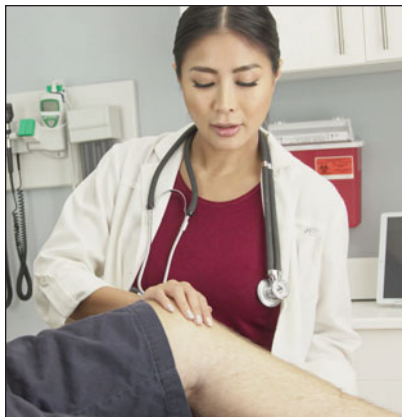
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**CLINICAL**

## 13 Knee Immobilization for Acute Knee Injuries: A Review

Despite how often it's employed, immobilization is not necessarily essential when managing acute knee injuries in the urgent care center. In fact, sometimes it can set a patient up for less-than-optimal outcomes. Understanding the nuances can go a long way in determining when it is—and isn't—the right choice.

*Matthew Bruce Baird, MD; Mallory Shasteen, MD, CAQ-SM; and Vicki Nelson, MD, PhD*



**CASE REPORT**

## 21 A Case of Late-Onset Diabetes

Previously undiagnosed diabetes is often an incidental finding in urgent care. Unfortunately, especially in elderly patients, it's also a diagnosis that could be the harbinger of much more threatening issues.

*Joshua Russell, MD, MSc, FCUCM, FACEP*

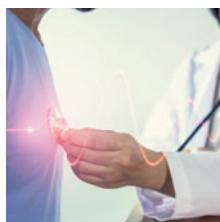


**HEALTH LAW AND COMPLIANCE**

## 27 Avoiding Defamation Lawsuits in Urgent Care

Anything that casts a shadow on the trustworthiness of a clinician has major ramifications for that individual, but also for patients and the urgent care center. As such, operators can be quite aggressive in defending their reputations, to the point of suing anyone who says a disparaging word. How can you avoid being the plaintiff, and what are viable defenses if you do wind up in court?

*Alan A. Ayers, MBA, MAcc*



**ORIGINAL RESEARCH**

## 33 What Is the Acceptable Miss Rate for a Major Adverse Cardiac Event (MACE)? A Follow-Up Survey After Release of the American College of Emergency Physicians (ACEP) Clinical Policy on Acute Coronary Syndromes

All the risk tools and guidelines in the world can't alleviate concerns over whether a patient is safe to go home. It's a cold, hard fact that unforeseen events are going to happen, and you can't predict them all. The question is, is there any "miss rate" that you're comfortable with?

*Rebekah Samuels; Francesca Cocchiarale; Samidha Dutta, DO; Jarryd Rivera, MD; Amal Mattu, MD; Michael Pallaci, DO; Paul Jhun, MD; Jeff Riddell, MD; Cameron Berg, MD; and Michael Weinstock, MD*

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Despite the fact that elbow fractures have been identified in at least one study as the most common fracture among pediatric patients, subtle signs can easily be overlooked. This is especially true compared with fractures in other locations. A thorough understanding of relevant anatomy, ossification centers, and fracture patterns are essential to care for and accurately diagnose pediatric elbow fractures. You'll have a chance to read about that and more in the June issue of *JUCM*.

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## JUCM CONTRIBUTORS

Immobilization may seem like an obvious course of action for most patients who present with an acute knee injury. Unfortunately, that doesn't necessarily mean it's the *right* course of action. Sometimes, in fact, you're increasing your patient's risk for poor outcomes by immobilizing without clinical cause. And evaluation of current literature suggests that it's done more frequently than the evidence dictates

This is the crux of Knee Immobilization for Acute Knee Injuries: A Review (page 13) by **Matthew Bruce Baird, MD; Mallory Shasteen, MD, CAQ-SM; and Vicki Nelson, MD, PhD**. The authors did a deep dive to compose a very rationale, well-referenced discussion to try to answer the question of when it does (and does not) make sense to regulate an injured knee's mobility.

The authors are colleagues in the Department of Emergency Medicine at Prisma Health – Upstate and the University of South Carolina – Greenville School of Medicine.

Another question that we know bears discussion is addressed in What Is the Acceptable Miss Rate for a Major Adverse Cardiac Event (MACE)?, an original research article contributed by **Rebekah Samuels; Francesca Cocchiarale; Samidha Dutta, DO; Jarryd Rivera, MD; Amal Mattu, MD; Michael Pallaci, DO; Paul Jhun, MD; Jeff Riddell, MD; Cameron Berg, MD; and Michael Weinstock, MD**. It's a follow-up of sorts to a study we published in our February 2021 issue. Where the foundation of the first article was guidelines issued in 2018 by the American College of Emergency Physicians, this one considers the same question in the context of an updated version of the guidelines. It starts on page 33.

Ms. Samuels is a medical student at the University of Pikeville-Kentucky College of Osteopathic Medicine, as is Ms. Cocchiarale. Drs. Dutta and Rivera are with the Adena Family Medicine Residency program. Dr. Mattu is affiliated with the University of Maryland. Dr. Pallaci is with Northeast Ohio Medical University, Ohio University Heritage College of Osteopathic Medicine, and Summa Health System. Dr. Jhun is at the University of California San Francisco. Dr. Riddell is with Keck School of Medicine of the University of Southern California. Dr. Berg practices at North Memorial Health Care. Dr. Weinstock is with Adena Health System; Department of Emergency Medicine, Wexner Medical Center at The Ohio State University; Emergency Medicine Reviews and Perspectives (EM RAP); *The Journal of Urgent Care Medicine*; Urgent Care Reviews and Perspectives (UC RAP); and the Ohio Dominican University Physician Assistant Studies Program.

Diabetes tends to be an incidental finding in urgent care presentations. Sometimes its attributable to something more serious than genetics or lifestyle concerns—as it was with the

patient at the center of A Case of Late-Onset Diabetes. **Joshua Russell, MD, MSc, FCUCM, FACEP** provides the details and the lessons learned starting on page 21. In addition to serving as the editor-in-chief of *JUCM*, Dr. Russell practices at NorthShore University Health System, University of Chicago Medical Center Affiliate and Legacy/GoHealth Urgent Care.

Criticism should never be given lightly in any professional setting. When that setting is an urgent care practice, however, there's a lot more at stake than getting irked over unfair complaints. Sometimes litigation is warranted. The question is, where's the line? Read Avoiding Defamation Lawsuits in Urgent Care (page 27) and you'll find out. We have **Alan A. Ayers, MBA, MAcc** to thank for addressing this topic. Mr. Ayers is president of Experity Networks and senior editor, practice management for *JUCM*.

Our cover article in this month's issue, described above, addresses issues around immobilizing the knee after an acute injury. Coincidentally, Abstracts in Urgent Care (page 23) includes a review of an article on the nuances of immobilizing ankle fractures. In addition, **Ivan Koay, MBChB, FRNZCUC, MD** summarizes new articles on treating septic olecranon bursitis; the relative merits of EKG interpretation by humans vs machines; preHEART score and prehospital care; otitis media management; and how much (or little) booster shots reduce risk for getting COVID-19. Dr. Koay is an urgent care physician; RNZCUC examiner; education faculty for the RCSI Fellowship of Urgent Care Medicine; and head of faculty na hÉireann Royal New Zealand College of Urgent Care.

Finally, there's no substitute for thorough, ethical billing practices. But how can you be sure your team is doing it right? This month's Revenue Cycle Management Q&A feature by **Monte Sandler** offers a scorecard on page 46 to help you figure it out. Mr. Sandler is executive vice president, revenue cycle management for Experity.

### Call for Peer Reviewers

In every issue of *JUCM*, there are select articles on which we ask members of our peer review panel to comment. It's one step we take in trying to ensure that all the content we publish is relevant, clearly communicated, and free of bias. We're grateful for their contributions.

If you'd like to help *JUCM* achieve the standard we set for ourselves on our readers' behalf, please consider volunteering to serve as a peer reviewer, too. Just send an email, including your CV, to [editor@jucm.com](mailto:editor@jucm.com). Your contributions will be both valuable and welcomed. ■

# Join the MOVEMENT



Ensuring the long-term sustainability of urgent care **starts with a definition.**

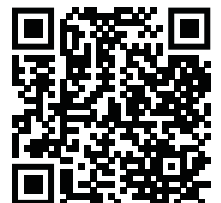
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Learn More

# Resources

■ LOU ELLEN HORWITZ, MA

If you have come to [ucaoa.org](http://ucaoa.org) looking for a resource and had a hard time finding it, you are not alone. We have a lot of great stuff, but it has not been as accessible as we'd like. That is about to change.

If you've read our Strategic Plan for 2022-23, you'll know that "upgrading our experience" is a top priority. That commitment has led to significant investments in our technology.

There are two big elements in the works: a new "association management system" that will manage all of your member data and Resource access, and a newly improved website that will improve almost everything you do with UCA. The full release is scheduled for Q4 of this year.

However...we are rolling out one thing ahead of schedule!

Over the past year, we've developed an entirely new way to access all of the Resources UCA has. Our wonderful Creative Director Todd Windley has designed and written original software that will house and deliver all of our Resources in an easily searchable format.

For this to work well, our wonderful Learning Experience team—Director Melodie Turk and Program Manager Katie Holzkopf—has spent the last year reviewing, evaluating, and categorizing *all* of the content we have at UCA. They ended up with about 400 pieces of content.

We quietly launched the beta test of the new Resources platform in early April with about 20 pieces of content, so if you want a sneak peek at where we are heading, go check it out on [ucaoa.org](http://ucaoa.org) under Resources. The remaining 380+ pieces will be added over the rest of the year and will be refreshed and added to on an ongoing basis as we continually develop and share best-practice learning and examples.

Much of this content is free to UCA/CUCM members—and it will encompass both medical and operational topics. We hope that as it grows you will enjoy much-improved awareness of and access to all of the Resources that UCA and the College of

Urgent Care Medicine have created or curated for you.

And speaking of resources...let me update you on our Advocacy Strategy and how you can support it.

We have finalized our strategy for the next several years—at the federal/national level. It includes three focus areas: Educating Congress and Regulatory Agencies on the Urgent Care Industry, Advocacy for Fair Payment and Inclusion in Future Emergency Planning, and Addressing Healthcare Disparities.

Do we still need to educate on what urgent care does and how we fit in? I'm afraid so. We were in Washington, DC in March to spend a day on the Hill with Congressional leaders and staff, and found their understanding of urgent care is still lacking. For 2022 we are focusing education on urgent care's capacity: size and geography of the industry, scope of services, and the role you played in the pandemic.

This education feeds into advocacy for fair payment and future emergency planning. For 2022 we are focusing on defining urgent care with national standards—starting with Urgent Care Center Certification. As we start to advocate for fair payment based on the broad scope of services you provide, certification is the only way to ensure a center can deliver on that scope (and therefore should be paid fairly for it!). Each subsequent year of advocacy builds upon this foundation of certification.

Addressing Healthcare Disparities is new and important territory for urgent care. Throughout the pandemic we received requests from the CDC and others interested in how our industry was serving communities with healthcare disparities. In 2022 we are focusing on gathering data to measure how we are currently doing as an industry, and we will build from there—led by our new Commission on Diversity, Equity, and Inclusion.

There's much more to our advocacy strategy, so we are publishing a detailed report; look for that in your email and on the website.

However, a strategy is only that; execution is entirely different. If we are going to reach our goals, we need everyone to support our efforts—in both time and dollars. If you want these dreams to come true, you must be a part of achieving them. Learn more about how you can volunteer or donate funds. We'll make good use of both as we pursue the best future for all of urgent care. ■



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



# CONTINUING MEDICAL EDUCATION

**Release Date:** May 1, 2022  
**Expiration Date:** April 30, 2023

## Target Audience

This continuing medical education (CME) program is intended for urgent care physicians, primary-care physicians, resident physicians, nurse-practitioners, and physician assistants currently practicing, or seeking proficiency in, urgent care medicine.

## Learning Objectives

1. To provide best practice recommendations for the diagnosis and treatment of common conditions seen in urgent care
2. To review clinical guidelines wherever applicable and discuss their relevancy and utility in the urgent care setting
3. To provide unbiased, expert advice regarding the management and operational success of urgent care practices
4. To support content and recommendations with evidence and literature references rather than personal opinion

## Accreditation Statement



This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Institute for Medical and Nursing Education (IMNE) and the Institute of Urgent Care Medicine. IMNE is accredited by the ACCME to provide continuing medical education for physicians. The IMNE designates this journal-based CME activity for a maximum of 3 *AMA PRA Category 1 Credits™*.

Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Planning Committee

### • Joshua W. Russell, MD, MSc, FACEP

*Member reported no financial interest relevant to this activity.*

### • Michael B. Weinstock, MD

*Member reported no financial interest relevant to this activity.*

### • Alan A. Ayers, MBA, MAcc

*Member reported no financial interest relevant to this activity.*

### • Steve Weinman, MSc, RN, CEN, TCRN

*Member reported no financial interest relevant to this activity.*

## Disclosure Statement

The policy of IMNE requires that the Activity Director, planning committee members, and all activity faculty (that is, anyone in a position to control the content of the educational activity) disclose to the activity participants all relevant financial relationships with commercial interests. Where disclosures have

been made, conflicts of interest, real or apparent, must be resolved. Disclosure will be made to activity participants prior to the commencement of the activity. IMNE also requires that faculty make clinical recommendations based on the best available scientific evidence and that faculty identify any discussion of “off-label” or investigational use of pharmaceutical products or medical devices.

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# CONTINUING MEDICAL EDUCATION

JUCM CME subscribers can submit responses for CME credit at [www.jucm.com/cme/](http://www.jucm.com/cme/). Quiz questions are featured below for your convenience. This issue is approved for up to 3 *AMA PRA Category 1 Credits™*. Credits may be claimed for 1 year from the date of this issue.

## Knee Immobilization for Acute Knee Injuries: A Review (page 13)

### 1. Recommendations for patients with patellar dislocation include:

- a. 8 weeks of immobilization with a plaster cast
- b. 8 weeks of immobilization with a cylindrical cast
- c. 2 to 3 weeks of immobilization in full extension or 20° flexion
- d. No immobilization pending orthopedic consult

### 2. Tibial plateau fractures that are treated nonoperatively require:

- a. 8 to 12 weeks of immobilization and no physical therapy
- b. 4 to 6 weeks of only physical therapy
- c. 4 to 8 weeks of immobilization followed by 8 to 12 weeks of physical therapy
- d. None of the above

### 3. In patients with a knee dislocation, what is the incidence of vascular injury?

- a. 1%
- b. 2%
- c. 5%
- d. 18%

## A Case of Late-Onset Diabetes (page 21)

### 1. The number of individuals unknowingly living with diabetes in the United States is estimated to be:

- a. <1 million
- b. 4 million
- c. 8 million
- d. 11 million

### 2. Approximately what percentage of patients with pancreatic ductal adenocarcinoma (PDAC) have comorbid diabetes?

- a. 51%
- b. 68%
- c. 74%
- d. 88%

### 3. What is the 5-year mortality rate for patients with PDAC and diabetes?

- a. 36%
- b. 50%
- c. 73%
- d. >90%

## Avoiding Defamation Lawsuits in Urgent Care (page 27)

### 1. Which of the following is a suitable definition of slander?

- a. Any false or misleading statement or image that impugns the character, ability, or social or professional standing of another individual
- b. Any false or misleading written statement tending to impeach the honesty, integrity, virtue, or reputation of another individual
- c. Any false or misleading spoken statement tending to impeach the honesty, integrity, virtue, or reputation of another individual
- d. Any statement, whether true or false, that sullies the reputation or professional standing of another individual

### 2. Which of the following can be used as the basis of a defense against allegations of defamation?

- a. Truth
- b. Privilege
- c. Opinion
- d. All of the above

### 3. Damages in a defamation settlement depend on specific facts. These include:

- a. Whether the defamation occurred online, in published content, or in spoken words
- b. Whether the plaintiff can demonstrate actual malice
- c. How likely it is that the defamatory content is true or false
- d. All of the above



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# Knee Immobilization for Acute Knee Injuries: A Review

**Urgent message:** Immobilization following acute knee injury occurs more commonly than the evidence might dictate in urgent care and other acute care settings. Evaluation of data in existing literature suggest that this common practice carries risk for adverse effects when not warranted.

MATTHEW BRUCE BAIRD, MD; MALLORY SHASTEEN, MD, CAQ-SM; and VICKI NELSON, MD, PhD

Citation: Baird MB, Shasteen M, Nelson V. Knee immobilization for acute knee injuries: a review. *J Urgent Care Med.* 2022;16(8):13-19

## Abstract

### Context

Immobilization of the knee is commonly used following acute knee injuries despite a paucity of supporting evidence. However, adverse effects of immobilization have been demonstrated. The intent of this review is to stimulate further study on knee immobilization and encourage acute care providers to be judicious with its use.

### Evidence Acquisition

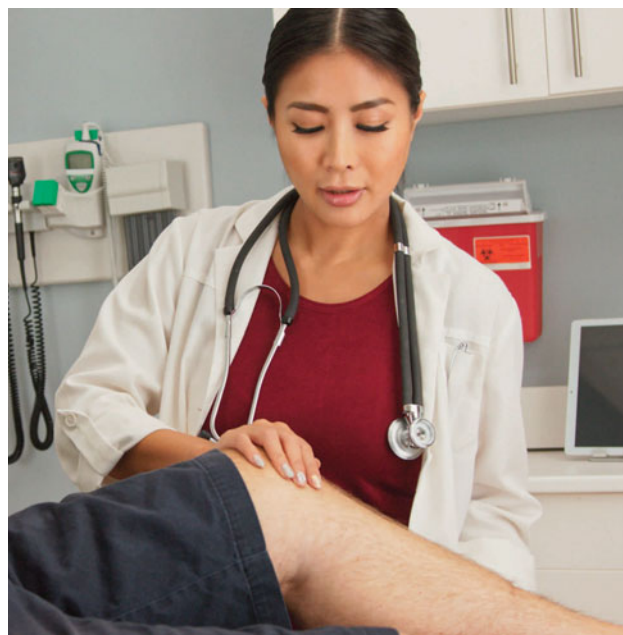
This clinical review summarizes the available literature on knee immobilization for acute knee injuries and related articles. Online databases were searched using terms relevant to knee injuries and immobilization (see Methods section further in the article), with pertinent articles extracted and reviewed.

### Results

There is a paucity of published evidence on knee immobilization for acute knee injuries.

### Conclusions

Available evidence indicates that knee immobilization should be considered for unstable injuries and most fractures. For stable injuries, avoiding use or limiting



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use to 2 to 3 days with a plan for active early rehabilitation is recommended.

## Introduction

Immobilization of the knee after an acute injury is a common practice in sports medicine clinics, emergency departments, urgent care clinics, and other ambulatory care settings. Benefits include joint stabilization, pre-

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vention of further injury, and pain relief. Immobilization is often achieved with a prefabricated knee immobilizer brace, long-leg posterior splint, or less commonly a cylindrical cast. Historically, these modalities have been reserved for postoperative and perioperative management of various knee conditions. Acute care providers, however, quickly adopted the practice for a variety of acute knee injuries.

Despite its common use, there is little evidence supporting rigid knee immobilization; in fact, numerous studies have illustrated its negative consequences, including thigh muscle weakness and atrophy,<sup>14</sup> loss of motion,<sup>5-8</sup> deep-vein thrombosis (DVT),<sup>9-11</sup> and delay in return-to-sport or baseline activities.<sup>8</sup> A 2020 study by Kilroe, et al suggests that atrophy and weakness are found within the first 2 to 5 days of knee immobilization, suggesting that even very brief periods of immobilization can have adverse effects.<sup>2</sup>

The purpose of this review is to summarize available literature and recommendations for rigid knee immobilization of acute knee injuries. We discuss use of immobilization for potentially unstable injuries (knee dislocation, patella dislocation, extensor mechanism rupture, tibial plateau fracture, osteochondritis dissecans lesions), and stable injuries (isolated cruciate ligament injuries, meniscus tears, sprains, strains, contusions) separately.

## Methods

PubMed, Medline, Google scholar, and the Cochrane database were utilized to identify the resources for this review. The following keywords were searched:

- Knee immobilization
- Rigid knee immobilization
- Knee splinting

The following condition-specific phrases were also searched:

- Knee dislocation management
- Patella dislocation management
- Patella fracture management
- Knee extensor mechanism disruption
- Patella tendon rupture management
- Quadriceps tendon rupture management
- Tibial plateau fracture management
- Osteochondritis dissecans management
- Knee sprain management

At times, the term *treatment* was substituted for *management* to identify additional resources. Articles and abstracts identified were reviewed, and those addressing

rigid knee immobilization for acute knee injuries were selected. A medical research librarian was consulted to supplement the above literature search.

## Unstable Injuries

### Knee Dislocation

Knee dislocation (tibiofemoral dislocation) is a rare, but devastating, knee injury commonly associated with popliteal artery disruption and limb loss. In a 2014 systematic review, Medina reported an 18% incidence of vascular injury after knee dislocation. Of these, 80% underwent surgery with 12% requiring amputation.<sup>12</sup> Typically, both cruciate ligaments and one collateral ligament are ruptured, although there are rare cases reporting disruption of a single cruciate ligament after knee dislocation.<sup>13-18</sup> About half of knee dislocations are low-energy injuries, typically in the obese, and can be easily missed at initial presentation.<sup>19</sup> In addition, half of knee dislocations reduce spontaneously before medical evaluation.<sup>20</sup> Thus, acute care providers are encouraged to consider a patient with multiple ligament disruptions to be a result of dislocation, and take great care to consider this injury in the obese with low-energy mechanisms.

Due to the extent of injury seen with knee dislocations, rigid immobilization is often used in the acute setting. The appropriate method of immobilization remains controversial, however. Overall, external fixation is favored over rigid brace immobilization.<sup>17,21</sup> Most authors suggest that bracing is the most common initial method, with the following indications for immediate external fixation: open major trauma, vascular injury, compartment syndrome, unstable fracture-dislocation, polytrauma patients requiring operations unrelated to knee injury, and insufficient stability after brace (such as in obese patients).<sup>17,22,23</sup> However, aggressive early mobilization protocols are utilized postoperatively with promising outcomes.<sup>24-26</sup>

For the acute care provider, there are no available studies comparing knee immobilization for acute knee dislocation vs alternative treatment options. Initial rigid immobilization is commonly practiced after knee dislocation, and recommended in order to maximize joint stability, minimize tension across the joint, and reduce pain. Care should be taken to evaluate vascular status before and after bracing to prevent arterial occlusion and distal ischemia. Early mobilization can be considered for postoperative patients.<sup>25</sup>

### Patellar Dislocation

Patellar dislocations make up approximately 3% of acute knee injuries and are the second leading cause of acute



knee arthritis behind anterior cruciate ligament (ACL) tears.<sup>27,28</sup> Chronic sequelae include early development of patellofemoral osteoarthritis, patellofemoral pain, and chronic instability with recurrent dislocations. Of these, instability and recurrence are the most debilitating consequences, with the incidence of recurrence being around 40%.<sup>29</sup> Recurrence rates with surgical vs nonsurgical repair have been found to be quite high with both strategies—10% to 30% in surgical patients, and 13% to 73% in those treated nonsurgically in a small number of limited studies.<sup>27,30,31</sup> Most authors favor nonoperative treatment for first-time patellar dislocations in the absence of significant chondral injury with loose body or large osteochondral fracture.

There is debate regarding the decision to immobilize the knee following acute patellar dislocation. Historically, 6 weeks of knee immobilization with a plaster cast has been used.<sup>32</sup> Modern recommendations usually include a 2-to-3-week period of immobilization in full extension or 20° of flexion.<sup>27,33</sup> Theoretically, this would serve to decrease tension across medial stabilizers (medial patellofemoral ligament and medial retinaculum) and allow fibrosis to begin without disruption. Despite this theoretical advantage, there is no high-quality evidence that immobilization improves outcomes.

A recent, retrospective cohort study of 601 adolescents and young adults with acute patellar dislocation found no difference in recurrence rates between patients treated without immobilization and those treated with 6 weeks of fixed immobilization with gradual increase in range of motion afterwards.<sup>34</sup> A small randomized controlled trial (18 patients) showed no difference in recurrence rates between patients treated with taping following 1 week of immobilization in a dorsal splint vs a rigid cast for 5 additional weeks.<sup>35</sup> Those patients treated with taping reported improved functional scores at 6 and 12 weeks, and at 5-year follow-up. That same year, however, a conflicting review suggested that a posterior plaster splint might be preferable to a cylindrical cast or brace.<sup>36</sup> However, this review only included a single study, and that study did not include a comparison group of patients who were not immobilized.<sup>29</sup> Prior to these studies, a 2010 review identified only two prospective randomized controlled trials evaluating immobilization vs no immobilization, with no differences in recurrent dislocation rates found.<sup>33</sup>

Complications following patella dislocation specifically include quadriceps atrophy and reduced speed of recovery.<sup>37</sup> Though current literature is mixed regarding use of immobilization acutely, it is common practice for many providers. There is not adequate evidence

available to support or discourage this practice. Thus, we do not recommend providers alter their management recommendations, but do encourage consideration of the risks, benefits, and suspected degree of structural disruption before immobilizing an individual patient. When immobilization is utilized, it is advisable to minimize the duration (1 to 2 weeks). Current data suggest that such a practice would not increase recurrence and would minimize complications.

#### **Patella Fracture and Extensor Mechanism Rupture**

Patella fractures make up about 1% of all fractures and are commonly seen in acute care clinics following trauma.<sup>38</sup> Typically, urgent surgical reconstruction is required for significantly displaced fractures and fractures associated with extensor mechanism disruption. The goal for the latter group is to obtain surgical fixation within 24 hours of injury.<sup>39</sup> The same is true for patellar and quadriceps tendon ruptures. Initial management of these injuries with knee immobilization is recommended, ensuring urgent surgical correction.<sup>39</sup>

Patella fractures not associated with extensor mechanism disruption, however, are treated conservatively with some combination of knee immobilization and physical therapy.

There are two older clinical studies with proposed protocols, both of which were summarized and reviewed more recently.<sup>38,39</sup> The first, from Bostrom in 1972, included 212 patella fractures with intact extensor mechanisms, <3mm of articular displacement, and <4mm of widening at the fracture site. These injuries were treated nonoperatively with 4 weeks of immobilization in a cylindrical cast. Good or excellent outcomes were reported in 99% of cases at mean 9-year follow-up, with only two treatment failures.<sup>38</sup> The second study, by Braun, et al, from 1993 reviewed 40 fractures with intact extensor mechanisms and <1 mm of displacement treated nonoperatively. These patients were immobilized with a posterior splint for 3 to 5 days followed by partial weight-bearing and a progressive physical therapy program. At mean follow up of 30.5 months, 80% of patients were pain-free, and 90% had obtained normal range of motion.<sup>39</sup> Initial treatment with immediate weightbearing in a hinged knee brace locked in full extension for 1 to 2 weeks is recommended, followed by active-assisted and active range-of-motion exercises, with resistance exercises introduced at 6 weeks.<sup>40,41</sup>

The limited literature does endorse the safety of nonoperative management for nondisplaced patella fractures with intact extensor mechanisms. Initial knee immobilization with weightbearing has been studied for

Table 1. Benefits and Risks of Knee Immobilization	
<p><b>Benefits of Knee Immobilization</b></p> <ul style="list-style-type: none"> <li>• Pain relief</li> <li>• Knee stabilization</li> <li>• Protection from further injury</li> </ul>	<p><b>Risks of Knee Immobilization</b></p> <ul style="list-style-type: none"> <li>• Muscle atrophy</li> <li>• Muscle weakness</li> <li>• Loss of motion</li> <li>• Decreased bone mass</li> <li>• Delay in operative repair for surgical injuries</li> <li>• Delay in return to sport/activities</li> <li>• Skin breakdown</li> <li>• DVT</li> </ul>

these injuries and is associated with favorable outcomes. Limiting the duration of immobilization to 1 to 2 weeks is likely safe, particularly for fractures with minimal displacement. Early progression to range-of-motion exercises and resistance exercises under the guidance of a physical therapist is recommended. For injuries with extensor mechanism disruption, rigid immobilization with urgent surgical correction is required.

**Tibial Plateau Fracture**

Tibial plateau fractures make up another 1% of all fractures.<sup>42</sup> Their management depends on the location and degree of displacement, well described by the Schatzker classification system.<sup>10,43</sup> Bicondylar and medial tibial plateau fractures are relatively uncommon but considered more severe than lateral tibial plateau fractures. There is general agreement that medial tibial plateau fractures with any displacement should be treated surgically, as precise reduction results in superior functional outcomes.<sup>10</sup> Isolated lateral tibial plateau fractures, Schatzker type I, are often treated conservatively. Specific surgical indications for these fractures are controversial, ranging from nonoperative treatment for fractures with up to 1 cm of depression to accepting only minimal depression or displacement prior to surgical fixation<sup>44,45</sup> Therefore, close consultation with an orthopedic surgeon is indicated.

Historically, initial treatment of any tibial plateau fracture has involved knee immobilization. In fractures requiring surgery, there are no trials investigating alternative forms of initial immobilization or level of restriction with regards to patient outcomes. Experts recommend a non-weightbearing status with immediate consultation with orthopedic surgery.<sup>46</sup> For those fractures treated nonoperatively, immobilization is typically used for 4 to 8 weeks followed by 8 to 12 weeks of physical therapy.<sup>47,48</sup> Very little evidence is available to

evaluate this practice. A small cohort study in which 42 patients were treated with 4 to 6 weeks of immobilization in an above-knee plaster cast concluded that outcomes were acceptable in carefully selected patients.<sup>48</sup> At 6 months, 76% of patients reported good-to-excellent clinical outcomes. Unfortunately, the authors did not include a surgical group for comparison.

Early open-chain mobilization has been a topic of debate for decades. A small study in 1985 of 112 fractures determined that all patients treated nonoperatively regained full motion when fully immobilized for up to 6 weeks.<sup>49</sup> Other authors, however, support the use of early active and passive ROM exercises.<sup>49,50</sup>

Most protocols include a period of non-weightbearing with immobilization for 2 to 6 weeks, but there is little evidence to support restricted weightbearing. A 1993 study evaluating lateral tibial plateau fractures found that weightbearing in a cast brace did not produce further depression by more than 2 mm.<sup>51</sup> Another small study of postoperative patients in 2018 found that immediate weightbearing did not cause articular collapse or fracture displacement.<sup>52</sup> While these conclusions cannot be directly applied to nonoperative patients, they suggest that once the stability of a lateral tibial plateau fracture is established, weightbearing may be reasonable.

Considering historical practices and what little data are currently available, we recommend knee immobilization with a non-weightbearing status for acute management of any tibial plateau fracture along with close consultation with an orthopedic surgeon. Early partial weightbearing may be considered once the fracture has been deemed stable, but is a decision best made by the orthopedic specialist and patient after discussing potential risks. For nondisplaced isolated lateral tibial plateau fractures, open-chain ROM exercises are likely safe, but not standard practice.

**Osteochondritis Dissecans**

Osteochondritis dissecans (OCD) is another condition for which knee immobilization is often used. The true incidence is poorly understood given the high number of incidental diagnoses, multiple classification systems, and unclear diagnostic criteria.<sup>53</sup> Treatment decisions are based on lesion stability (determined by MRI) and the skeletal maturity of the patient. Skeletally immature patients with stable lesions are the subgroup most often treated nonoperatively.<sup>54,55</sup> Patients younger than 11 years with lesions in the classic location on the lateral border of the medial femoral condyle have the best prognosis.<sup>56,57</sup> All other patients should be immobilized in the acute setting and offered surgical fixation, with

Table 2. When to Consider Knee Immobilization		
<p><b>Appropriate to Immobilize</b></p> <ul style="list-style-type: none"> <li>• Knee dislocation</li> <li>• Patellar dislocation</li> <li>• Extensor mechanism rupture</li> <li>• Patella fracture</li> <li>• Tibial plateau fracture</li> <li>• Unstable pediatric osteochondral lesion</li> <li>• Adult osteochondral lesion</li> <li>• Multiligament disruption (knee dislocation equivalent)</li> </ul>	<p><b>Avoid Immobilization</b></p> <ul style="list-style-type: none"> <li>• Patellar instability without dislocation</li> <li>• Isolated cruciate ligament injury</li> <li>• Isolated collateral ligament injury</li> <li>• Knee contusion</li> <li>• Knee sprain</li> </ul>	<p><b>Further Study Needed</b></p> <ul style="list-style-type: none"> <li>• Patellar dislocation/subluxation</li> <li>• Isolated nondisplaced lateral tibial plateau fracture</li> <li>• Stable pediatric osteochondral lesion</li> <li>• Patella fracture with intact extensor mechanism</li> </ul>

close orthopedic surgeon consultation.

For skeletally immature patients with stable OCD lesions, treatment often includes knee immobilization, bracing, activity restriction, weightbearing restriction, physical therapy, iontophoresis, and extracorporeal shockwave therapy.<sup>58</sup> As of 2019, 21 case series and three case reports were found evaluating these modalities with no randomized controlled trials available.<sup>58</sup> Analysis of these heterogeneous studies found an overall healing rate of 61.4%. Of the above modalities, only restriction of physical activity has shown consistent correlation with improved outcomes with healing rates between 81% to 96%.<sup>58-60</sup> When physical therapy (core and quadricep strengthening) was added to physical restriction, favorable results were also seen with 80% to 90% of asymptomatic patients at mid- and long-term follow-up.<sup>61,62</sup> Nine studies looked specifically at knee immobilization with highly variable results; no evidence-based conclusion can be made. Similarly inconclusive reports are seen for weightbearing restrictions.

In summary, for any unstable OCD lesions and for those diagnosed in adults, immediate consultation with orthopedic surgery is indicated with utilization of knee immobilization and weightbearing restrictions until follow-up. For OCD lesions in skeletally immature individuals found incidentally or deemed stable on MRI, we encourage avoiding the use of knee immobilization and treating with activity restriction (avoiding sports, jumping, weighted squats, running, or other impact activities) and low-impact quadricep and core strengthening exercises until instructed otherwise by an orthopedic surgeon or sports medicine physician. Patients should be prepared for a long recovery of approximately 6 months with good treatment compliance.<sup>58,63</sup> They should also be informed of the increased risk for developing knee osteoarthritis, with an incidence of 15% seen at 13 years and 30% seen at 35 years after diagnosis.<sup>64</sup>

**Stable Injuries**

Suspected isolated ligamentous tears, meniscus tears, sprains, and other undifferentiated knee injuries are often treated with knee immobilization, with the goal of alleviating pain and protecting damaged tissue.<sup>65</sup> However, this practice can result in muscle atrophy, joint stiffness, weakness, decreased cartilage proteoglycan synthesis, DVT, and decreased bone mass, significantly impairing rehabilitation from injury and delaying surgical intervention when indicated.<sup>66,67</sup>

Most rehabilitation programs for operative injuries are based on data from studies involving ACL tears. Almost all preoperative ACL treatment protocols include edema control and restoration of motion in preparation for surgery. While no studies found investigated knee immobilization acutely, available data suggest active rehabilitation protocols including joint mobilization improve postoperative outcomes.<sup>68,69</sup> All modern postoperative rehabilitation protocols for cruciate ligament injuries involve early motion with excellent functional outcomes.<sup>70-75</sup>

While there are few studies investigating rehabilitation programs for meniscus tears, experts agree that knee immobilization is not indicated in the acute setting when meniscus tear is considered likely.<sup>76,77</sup> Knee immobilization is commonly utilized postoperatively when attempts at meniscus repair are made (as opposed to meniscal resection).

There are no human trials comparing immobilization with early motion for nonoperative injuries, so most protocols have been extrapolated from animal models. In 2005, Thornton demonstrated impaired healing response with immobilization after MCL injury in rabbits; while an earlier study in dogs by Woo, et al demonstrated improvement in these parameters associated with an early rehabilitation program.<sup>77,78</sup> These concepts were used to promote similar rehabilitation protocols in humans.<sup>79</sup>

Despite the above evidence and expert opinion, knee immobilization continues to be used in the acute treat-

ment of ligamentous, meniscal, and undifferentiated injuries to the knee. A study by Sommerfeldt from 2014 indicated a much higher rate of knee immobilization prescribed by emergency physicians when compared with sports medicine physicians and orthopedic surgeons.<sup>80</sup>

## Discussion

The initial objective of this review was to determine when immobilization should be used for acute knee injuries. Unfortunately, there are no established evidence-based guidelines to answer this simple question. Animal models, postoperative studies, and dogma have dictated treatment for decades. Above, we have reviewed what evidence is available with regard to knee immobilization to elucidate what current standards of care are based upon.

**Table 1** summarizes the benefits and risks of immobilization. Each clinical encounter is unique, so we encourage providers to consider and discuss these factors with their patients and families.

**Table 2** summarizes management of injuries requiring knee immobilization, which injuries are best managed with early motion and rehabilitation, and highlights those injuries for which further study is needed. For this third category, we feel it is currently reasonable for acute care providers to utilize knee immobilization initially while awaiting further diagnostic information. If used in this setting, however, the duration of knee immobilization should be minimized, as muscle weakness and atrophy can occur quickly. Following immobilization, early range-of-motion exercises, weightbearing, and progression to strength and stability exercises are recommended. We hope that further research can help solidify more evidence-based recommendations.

Patellar dislocation/subluxation occurs in more than one category in **Table 2**. This speaks to the conflicting data published on this injury. It is our contention that injuries associated with patellar instability span a wide range of severities from mild, involving little structural damage (subluxations typically), to severe with bony, chondral, and ligament disruption. Those injuries considered severe often require reduction and/or are associated with a significant hemarthrosis. When utilized, immobilization for 2 weeks is recommended. Less severe injuries, however, with minimal effusion or other objective findings of structural damage or instability, can likely be managed without immobilization. Careful consideration and close collaboration with orthopedic consultants is recommended.

Determining the stability of a knee injury can be challenging in the acute setting, especially when dia-

gnostic uncertainty exists. Improving musculoskeletal assessment skills for nonsurgical providers would certainly help to minimize diagnostic uncertainty and potentially decrease unnecessary utilization of knee immobilization and its adverse effects. When diagnostic uncertainty does occur, collaboration with an orthopedic surgeon is recommended to help avoid or limit duration of knee immobilization.

Ultimately, we hope this review serves to remind acute care providers to strongly consider the risks and benefits of knee immobilization when managing acute knee injuries. While it is often quite easy to apply a prefabricated knee-immobilizing brace or splint, this practice can have adverse effects. Available evidence indicates that knee immobilization should be used for severe or unstable injuries, and very selectively for more stable injuries.

## Recommendations

- For unstable injuries, knee immobilization is indicated.
- For clearly stable injuries, knee immobilization should be avoided in favor of early mobilization and rehabilitation.
- For other or indeterminate injuries, evidence does not support changing standard management; rather, further study is warranted to help target the use of this modality appropriately. Acute care providers should understand the risks of knee immobilization and discuss them with their patients when devising treatment plans. ■

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# A Case of Late-Onset Diabetes

**Urgent message:** Previously undiagnosed diabetes in elderly patients is too frequently a precursor to the diagnosis of pancreatic cancer. Incidental and unexpected diagnosis of diabetes in older patients in urgent care, especially in normal or underweight individuals, should prompt a discussion about vigilant monitoring for other symptoms of malignancy and close follow-up with a primary care provider.

JOSHUA RUSSELL, MD, MSC, FCUCM, FACEP

## Case Presentation

A 72-year-old woman with a history of hypertension presented to urgent care with complaints of urinary frequency for the past 6 weeks. She denied burning, urgency, abdominal pain, flank pain, fever, and vomiting. Her only medication was lisinopril-hydrochlorothiazide.

## Exam

The patient's vital signs were normal. She had a normal general exam including no abdominal or costovertebral (CVA) tenderness.

## Work-up

The patient's urine dipstick was negative for nitrites, blood, and leukocyte esterase. However, the urine dip did reveal 1+ protein and 3+ glucose. Based on the results of her urinalysis, a fingerstick glucose was obtained. The result (280 mg/dL) was suggestive of underlying, undiagnosed diabetes.

Based on the age of onset and timing of symptoms, it was suspected that the patient had type 2 diabetes mellitus (DM2). Interestingly, the patient was not overweight. She was started on metformin 500 mg twice daily and referred back to her primary care provider.

## Case Continuation

Per follow-up with her primary care doctor (PCP), diabetes was confirmed with additional laboratory testing. Her dose of metformin was uptitrated in an effort to achieve adequate glucose control. The patient began

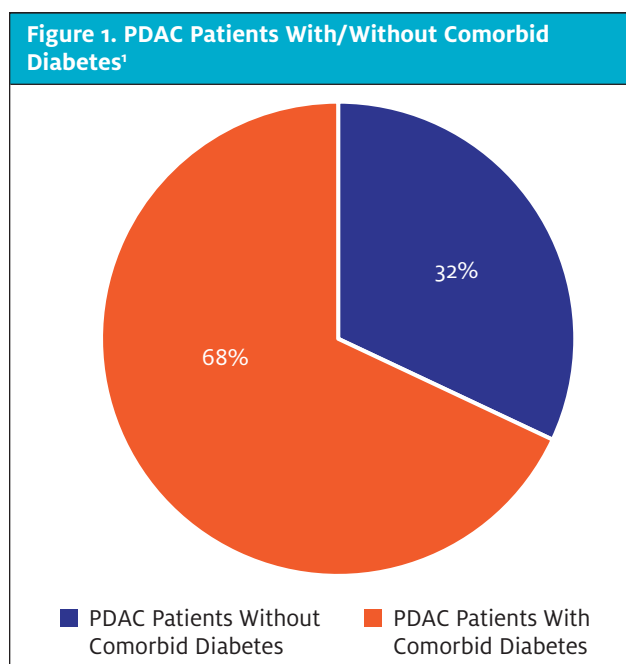


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having abdominal discomfort and bloating shortly thereafter, which was attributed to an expected side effect of metformin. Her PCP recommended continuing the metformin, expecting that the symptoms would improve in time.

Eight months after her initial urgent care presentation, the patient began to develop more severe abdominal pain, weight loss, and early satiety. One evening, the patient noted yellowing of her eyes (ie jaundice) and presented to the emergency department where a computed tomography scan of the abdomen revealed

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a 4 cm mass of the head of the pancreas.

A subsequent biopsy confirmed pancreatic ductal adenocarcinoma (PDAC).

The patient received the standard first-line chemotherapy regimen for approximately 4 months without response. She also tolerated treatment poorly. Subsequently, based on the counsel of her oncologist, she enrolled in hospice care.

#### Diagnosis

Late-onset diabetes as a harbinger of pancreatic cancer.

#### Discussion

Undiagnosed DM2 is incredibly common in the U.S., with an estimated 8 million people unknowingly living with the disease.

Increasing insulin resistance is a normal part of the aging process; however, most cases of DM2 will present before age 50.<sup>1</sup> Occasionally, older adults may develop DM2. Approximately 1% of patients >50 years of age with new-onset DM2 will be diagnosed with pancreatic cancer within the subsequent 36 months. Of those pancreatic cancer cases, 60% will develop within the first 12 months after onset of diabetes.<sup>2</sup>

The strong, complex relationship between PDAC and diabetes seems to be one of “dual causality.”<sup>3</sup> Concurrent hyperglycemia and increased insulin-like growth factor (IGF) signaling contribute to inflammation and unregulated cellular proliferation, which in turn, in-

creases risk for malignant transformation.<sup>1</sup>

In patients with PDAC and diabetes, the diagnosis of diabetes occurred within the 24 months preceding cancer diagnosis in 74%-88% of cases. Conversely, 68% of patients with PDAC have comorbid diabetes (see **Figure 1**). The relationship is further supported by the observation that 57% of patients with PDAC and DM saw resolution of diabetes after tumor resection.<sup>1</sup>

The incidence of pancreatic cancer is increasing throughout the world. It is currently the fourth leading cause of cancer-related deaths worldwide and is projected to become the second leading cause of cancer mortality before 2025.<sup>4</sup>

A primary reason for such high disease-associated mortality is that most cases of pancreatic cancer are unresectable at the time of detection.<sup>5</sup> PDAC is the most deadly form of pancreatic cancer, with a 5-year mortality exceeding 90%.<sup>1</sup> Hence, a key principle for modifying the mortality of pancreatic cancer is reducing time from onset until detection.

Identifying which subset of patients with late-onset diabetes should undergo further screening for pancreatic cancer, and when, has proven to be a challenge. In general, patients who are oldest (ie >70 years) and who have experienced recent weight loss are at the highest risk of having DM2 related to undiagnosed (and unfortunately often clinically undetectable) PDAC.<sup>2</sup>

This is consistent with the patient's presentation in this case report.

#### Conclusion

Thankfully, the vast majority of older patients diagnosed with late-onset diabetes (ie, after age 50) will not develop pancreatic cancer. However, as earlier detection is crucial to reduce mortality from the disease, it is useful to educate patients receiving a new diagnosis of diabetes in UC, especially if older and not overweight, about the association with pancreatic cancer and encourage monitoring for worrisome symptoms (eg, upper abdominal pain, early satiety, weight loss) which should prompt immediate re-evaluation. ■

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# ABSTRACTS IN URGENT CARE

- Immobilizing Ankle Fractures
- Treating Septic Olecranon Bursitis
- EKG Interpretation: Human vs Machine

■ IVAN KOAY MBChB, FRNZCUC, MD

- preHEART Score and Prehospital Care
- Rethinking Otitis Media Management
- Boosters Limit Risk for COVID—but by How Much?

## Casting vs Bracing for Ankle Fractures

**Take-home point:** Plaster casting was not superior to functional ankle bracing for certain ankle fractures.

**Citation:** Kearney R, McKeown R, Parsons H, et al. Use of cast immobilisation versus removable brace in adults with an ankle fracture: multicentre randomised controlled trial. *BMJ*. 2021;374:n1506.

**Relevance:** The management of fractures is an evolving discipline, steeped in dogma. The goal is to facilitate recovery with the lowest risk of complication which involves questioning historic practices of strict immobilization.

**Study summary:** This was a pragmatic, multicenter, superiority randomized controlled trial undertaken at 20 trauma units in the UK National Health Service (NHS). Participants were enrolled if they had nonoperative ankle fractures and were randomized 1:1 to each arm of the study. Participants wore the cast or brace for a minimum of 3 weeks. Blinding was not possible in this study. Patients with intraarticular, open, and/or displaced fractures were excluded. A follow-up questionnaire was used with the Olerud Molander ankle score, which consists of nine items (pain, stiffness, swelling, stair climbing, running, jumping, squatting, supports, and work or activities of daily living). Secondary outcomes of venous thromboembolism (VTE), pain, swelling, numbness around the foot, wound infection, and fracture healing were assessed separately with the Manchester-Oxford foot questionnaire and disability rating index.



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The authors enrolled 669 patients. They found no statistically significant difference in the Olerud Molander ankle score at 16 weeks. There were also no clinically relevant differences found in the disability rating index, Manchester-Oxford foot questionnaire. There were slightly higher numbers of complications in the removable brace group, particularly regarding wound breakdown (7 vs 15), wound infection (10 vs 19), and need for further surgery (4 vs 8).

**Editor's comments:** There was a 25% loss to follow-up in the study. The study was under-powered to detect a difference in the secondary outcomes of complications from each treatment arm. Full immobilization is generally still standard practice, and bracing alone should be reserved for situations where the fracture and follow-up have been discussed with the orthopedics expert assuming care of the patient. ■

## Antibiotics Alone for Treatment of Septic Olecranon Bursitis

**Take-home point:** Oral antibiotics alone was an effective treatment for septic olecranon bursitis. Aspiration of olecranon bursitis may not always be necessary and may actually be riskier.

**Citation:** Beyde A, Thomas A, Colbenson K, et al. Efficacy of empiric antibiotic management of septic olecranon bursitis without bursal aspiration in emergency department patients. *Acad Emerg Med*. 2022;29(1):6-14.

**Relevance:** Treatment of olecranon bursitis with aspiration can lead to chronic sinus tract formation. Unless aspiration is necessary, both patients and providers would prefer to avoid this procedure.

**Study summary:** This was a retrospective observational cohort study in a quaternary care academic emergency room in Min-

*“Resetting beliefs that all bacterial infections benefit from antibiotics could have broader implications in the management of other illnesses, such as sinusitis and bronchitis.”*

nesota. Data were extracted using a standardized extraction process from electronic health records. The investigators performed manual chart reviews on the cases identified to ensure accuracy.

The authors found 266 cases of olecranon bursitis, of which only four had aspiration in the ED. Thirty-nine were admitted to the hospital from the ED, 76 were discharged from the ED without antibiotic therapy, and 147 were discharged from the ED with empiric oral antibiotic therapy for suspected septic olecranon bursitis. One hundred forty-seven subjects were treated with oral antibiotics alone. Of 134 who followed up, 118 (88%) had complete resolution without further treatment, 6% had a later aspiration procedure, and 6.7% were admitted for intravenous antibiotics. Interestingly, 29% of patients were discharged with no antibiotics and, among this group, 97% had resolution of their symptoms.

**Editor’s comments:** This was a retrospective chart review study, but the data are compelling. Given the discomfort associated with aspiration, it appears that antibiotics alone for most cases of olecranon bursitis is a reasonable initial approach. ■

### Computer EKG Interpretation

**Take-home point:** Patients with normal EKG computer interpretation rarely have significant ischemic events. Nevertheless, caution needs to be taken to not put too much trust in their accuracy.

**Citation:** Winters L, Dhillon R, Pannu G, et al. Emergent cardiac outcomes in patients with normal electrocardiograms in the emergency department. *Am J Emerg Med.* 2022;51:384-387.

**Relevance:** EKG interpretation is a complex skill that takes years of practice to hone. It can be tempting to simply trust the computer interpretation, especially when feeling uncertainty. However, UC clinicians should be aware of the accuracy and pitfalls of this practice.

**Study summary:** This was a retrospective chart review of adult patients presenting to the ED with computer-interpreted normal EKGs. All computer-read normal EKGs were included in the data reviewed. The data were then cross referenced with medical records and duplicate normal EKGs were discarded from final analysis. All the selected EKGs then underwent final review by a cardiologist, whose opinion was considered the “gold standard.” Clinical outcomes and laboratory data were also collected for final analysis.

The authors identified 8,306 EKGs performed during the study period, of which 1,747 (21%) were read as normal and 989 were included for final analysis. Following cardiology review, 184 (18.6%) of the 989 EKGs had discrepant interpretation. Sixty (6.1%) were defined as potentially clinically significant changes. The discrepancies included findings such as nonspecific T-wave abnormality and prolonged QTc. Thirty-five percent of these patients with discrepancies in the EKG reading were admitted. No patient with a normal EKG was taken emergently for cardiac catheterization. Few patients (0.6%) underwent nonemergent cardiac catheterization, and two out of 989 patients had a cardiac intervention.

**Editor’s comments:** This study is limited by retrospective analysis and interobserver variability, as cardiologist review was used as a gold standard. It was apparent that patients with normal EKGs in this group of ED patients had low immediate and short-term risk of bad outcomes. However, findings other than ischemia may be missed more easily if clinicians rely exclusively on computer review. ■

### ‘preHEART’ Score for Prehospital Care Cardiac Event Risk Assessment

**Take-home point:** pre-HEART score had excellent test characteristics for risk stratifying patients in the prehospital setting.

**Citation:** Sagel D, Vlarr P, Roosmalen R, et al. Prehospital risk stratification in patients with chest pain. *Emerg Med J.* 2021; 38:814-819.

**Relevance:** Risk stratifying patients with chest pain in the prehospital setting could prove useful for extrapolation to UC settings.

**Study summary:** This was a prospective derivation study consisting of patients taken by emergency medical services with chest pain to one university and two regional hospitals in the Netherlands. Patients enrolled had a HEART score calculated by EMS providers as well as a POC troponin recorded. Retrospective chart reviews were done to assess major adverse cardiac events (MACE) or acute MI (aMI) within 3 days of presentation. A subsequent validation cohort was enrolled to validate the preHEART scoring.

The authors enrolled 1,208 patients into the index cohort for prevalidation of the preHEART score. MACE within that cohort occurred in 123 patients, with nine deaths and 114 aMIs. The median HEART Score was 5 in the initial cohort. The NPV, PPV, and AUC were 98.4% (95% CI 96.4% to 99.3%), 35.5% (95% CI 31.8% to 39.3%), and 0.81 (95% CI 0.78 to 0.85), respectively. Three components showed significant discrimination between MACE and no MACE in the initial cohort—history ( $p < 0.01$ ), ECG findings

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( $p < 0.01$ ), and troponin levels ( $p < 0.01$ ). preHEART score was then derived with history, ECG findings, age, troponin levels, and male sex (as a single risk factor) being independent predictors of MACE. Using the new derivation, the index cohort preHEART score actually outperformed the HEART score ( $p = 0.01$ ) and troponin levels alone (the strongest single MACE predictor overall) ( $p < 0.01$ ). In a subsequent validation cohort, the preHEART score again performed better than the HEART score with an NPV, a PPV, and an AUC of 99.4% (95% CI 96.0 to 99.9), 50.0% (95% CI 37.3 to 62.7) and 0.84 (95% CI 0.79 to 0.88), respectively.

**Editor’s comments:** Study based on population in the Netherlands limits generalizability. Additionally, POC troponin testing by EMS (or in UC for that matter) is not widely available in the U.S. Depending on location, preHEART score calculation may be beyond the scope of practice of EMS. ■

### Are We Getting It Wrong? Rethinking Acute Otitis Media Management

**Take-home point:** Practical and symptomatic treatment of acute otitis media (AOM) without antibiotics is safe in most children presenting to urgent care.

**Citation:** Frost H, Hersh A. Rethinking our approach to management of acute otitis media. *JAMA Pediatr.* February 21, 2022. Epub ahead of print.

**Relevance:** Unnecessary use of antibiotics leads to increased resistance and other adverse side effects. Our ability to reduce prescribing of broad-spectrum and long courses of antibiotics can help patient safety.

**Study summary:** This was an editorial regarding the treatment of AOM in children. Present American Academy of Pediatrics (AAP) guidelines for treating AOM recommend children over 24 months with nonsevere AOM be treated with observation or a delayed prescription. However, more than 95% of children with AOM are prescribed an antibiotic, of which more than 95% are immediate and 94% are for a duration of 10 days. Unnecessary use of antibiotics causes children significant harm, with 2.5 million adverse drug events reported by parents annually.

The authors suggest pragmatic, broad-reaching approaches to reduce unnecessary prescribing. They suggest a framework of defaulting to symptom management with no antibiotic, with an antibiotic required only in select circumstances or if a child’s health does not improve. Additionally, resetting beliefs that all bacterial infections benefit from antibiotics could have broader implications in the management of other illnesses, such as sinusitis and bronchitis, as well.

**Editor’s comments:** This as a position paper and not research.

However, the references cited by the authors support their position. Essentially, they highlight that providers treating AOM generally do not follow established guidelines, and that patients and themselves would benefit if they adhered to the guidelines. ■

*“The authors...estimated an 83% to 87% reduction in the odds of testing positive for COVID-19 after at least 2 weeks following receipt of the booster third dose compared with receiving two doses.”*



### COVID-19 Abstracts

#### Three vs Two Doses of BNT162b2 (Pfizer-BioNTech) mRNA Vaccine

**Take-home point:** There was an association between receiving a booster dose and reduction in the odds of testing positive for COVID-19, potentially counteracting waning immunity in the short term.

**Citation:** Patalon T, Gazit S, Pitzer V, et al. Odds of testing positive for SARS-CoV-2 following receipt of 3 vs 2 doses of the BNT162b2 mRNA vaccine. *JAMA Intern Med.* 2022;182(2):179-184.

**Relevance:** The necessity and effect of COVID-19 “boosters” have been hotly debated. This study addresses to what extent odds of contracting COVID are reduced by receiving a third dose of the Pfizer mRNA vaccine.

**Study summary:** This was a retrospective case-control study evaluating vaccine strategy efficacy in the Maccabi Healthcare Services in Israel. Two complementary approaches were used—a test-negative design and a matched case-control design. Participants who had a positive PCR result were deemed cases, and those that tested negative were classified as controls. Once a participant tested positive, they were excluded from further analysis. Among the 306,710 participants who did not have previous documented COVID-19 infection, a total of 500,232 PCR tests were performed. The authors found that a third dose of the mRNA vaccine BNT162b2 provided additional protection against COVID-19 infection. They estimated an 83% to 87% reduction in the odds of testing positive for COVID-19 after at least 2 weeks following receipt of the booster third dose compared with receiving two doses.

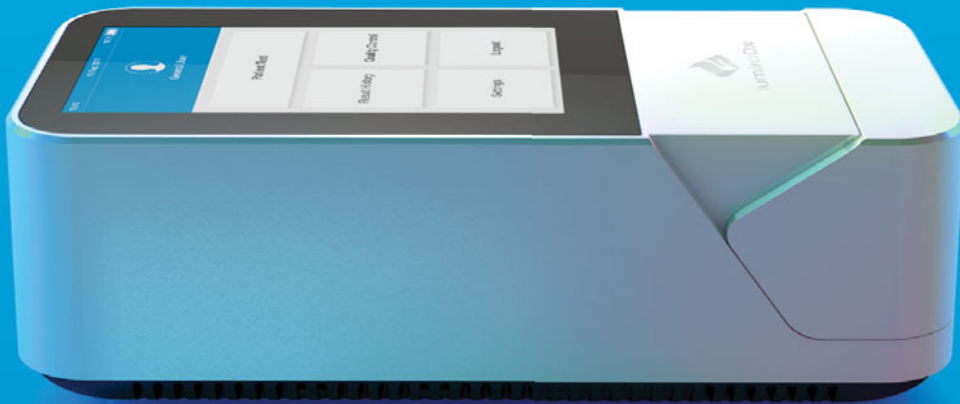
**Editor’s comments:** The study is based in Israel, which may reduce generalizability. The efficacy of other vaccines was not investigated. These data, as always with rapidly emerging new strains, may not apply to subsequent strains of the virus. ■



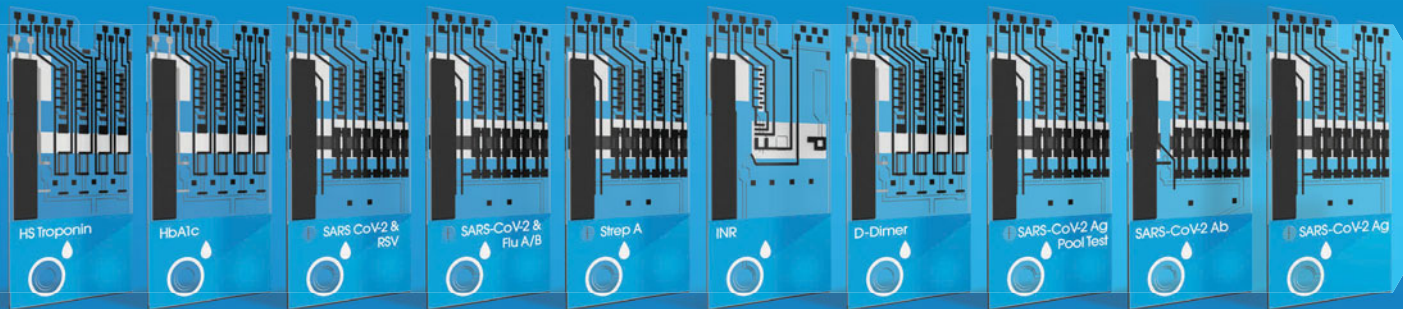
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# Avoiding Defamation Lawsuits in Urgent Care

**Urgent message:** People are unlikely to trust their healthcare to a provider with a sullied reputation, so speaking ill of a provider can cost them in terms of patient revenue or future employment opportunities. Understanding the causes and defenses for defamation can help you protect your reputation and your business.

ALAN A. AYERS, MBA, MAcc

We live in a nation where the First Amendment should protect “free speech,” particularly among public figures. Yet, Google “defamation lawsuit” and you’ll find the news full of instances in which the ability to share one’s *bona fide* opinion was met with censure and penalty in the form of civil litigation.

This has also occurred in urgent care as defamation lawsuits have ensnared operators in their capacity as a competitor and employer, as well as patients—many of whom are victims.

- Can one speak an “opinion” about the quality of a competitor’s services relative to yours?
- Can an urgent care operation separate itself from a provider who has been charged with (but not convicted of) a crime or regulatory infraction?
- Can victims of alleged malpractice seek legal recourse including sanctions against a provider?
- Can patients share their negative experiences with the greater “online” community including on social media and through reviews?

After all, isn’t there a “public interest” in people having complete information about medical providers?

## What Is Defamation?

*Defamation* is defined as “the unprivileged publication of false statements which naturally and proximately result in injury to another.”<sup>1</sup> The elements of a cause of action for defamation are:

1. the defendant published a false statement
2. about the plaintiff
3. to a third party and



4. the falsity of the statement caused injury to the plaintiff<sup>2</sup>

Note that libel and slander are both acts of defamation.

*Libel* is defaming someone in writing, and *slander* is defaming them orally. Libel is a malicious defamation, expressed either by printing or by signs or pictures or the like, tending to sully the memory of one who is dead, or to impeach the honesty, integrity, virtue, or reputation, or publish the natural defects of one who is alive, and thereby to expose him to public hatred, contempt, or ridicule.<sup>3</sup> To sustain an action for libel, the allegedly defamatory *words or images* must refer to some ascertained or ascertainable person, and that person must be the plaintiff.<sup>4</sup>

*Slander* is a “false and unprivileged *oral* communication attributing to a person . . . certain unfavorable char-

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**The “Granddaddy” of Reputation Lawsuits: Believability Is Key**

In 1983, *Hustler* magazine published a mock advertisement parodying the Reverend Jerry Falwell, a well-known Fundamentalist pastor, political activist, and founder of Liberty University, claiming he had engaged in incestuous relations in an outhouse. Falwell sued publisher Larry Flynt for libel, invasion of privacy, and intentional infliction of emotional distress.

After Falwell was awarded \$150,000 by a lower court for the emotional distress claim, *Hustler* appealed to the United States Supreme Court.

In its unanimous landmark 1988 decision, the court held that the interest of protecting the First Amendment right to “free speech” surpassed the state’s interest in protecting public figures from patently offensive speech, so long as such speech could not reasonably be construed to state actual facts about its subject.

Falwell’s conundrum went to the believability of Flynt’s allegations. When asked whether people believed the outrageous assault on his character, Falwell was indignant...“of course not!” But because Falwell asserted that no reasonable person would possibly think a reverend of his stature had engaged in such uncouth activities, Falwell negated his own claim.

Falwell might have seen a different outcome if he had proven Flynt’s depiction of an incestuous outhouse encounter were believable.

Adapted from Foster JC. *Hustler magazine v Falwell* (1988). *The First Amendment Encyclopedia*. Available at: <https://www.mtsu.edu/first-amendment/article/559/hustler-magazine-v-falwell>. Accessed March 28, 2022.

acteristics or qualities.”<sup>3</sup> In other words, *slander* means any libel communicated by spoken words.<sup>5</sup> To prove slander, or oral defamation, a plaintiff must show:

1. The imputing to another a crime punishable by law
2. Charging a person with having some contagious disorder or with being guilty of some debasing act which may exclude him from society
3. Making charges against another in reference to his trade, office, or profession, calculated to injure him therein or
4. Uttering any disparaging words productive of special damage which flows naturally therefrom<sup>6</sup>

*Defamation includes both libel (written or published communication) and slander (communicated by written words).*

**Damage to Reputation**

In addition to the definitions above, defamation can be “the invasion of the interest in a reputation and good name.”<sup>7,8</sup> A New York federal court has held that a statement that tends to injure another in his or her trade, business, or profession is defamatory per se.<sup>9,10</sup>

For physicians and medical businesses, specifically, their “reputation” is their stock in trade. People are unlikely to trust their future healthcare to a provider of ill-repute.<sup>11-13</sup> Therefore, speaking ill of another provider can cost them in terms of patient revenue or future employment opportunities—especially when the purported defamation entails issues of qualifications, competence, or professional ethics.<sup>14,15</sup>

Thus, a statement is defamatory *per se* if it “tend[s] to injure another in his or her trade, business, or profession.”<sup>16-18</sup>

*While a simple Google search reveals defamation lawsuits that have been filed, dismissals rarely make the news and settlements are usually subject to non-disclosure agreements. So it’s far more difficult to ascertain how any of these lawsuits were finally resolved.*

**What are Possible Defenses to a Claim of Defamation?**

- **Truth.** Truth is a complete defense to a defamation claim.<sup>19-21</sup> In addition, “substantial truth” is an absolute defense to a defamation action in some states.<sup>22-24</sup>
- **Privilege.** Privilege can be used as a defense in a defamation action.<sup>25-27</sup>
- **Opinion.** Ordinarily, opinion statements have absolute protection, and are nonactionable since they are not capable of being objectively characterized as true or false.<sup>28</sup> For example, the Minnesota Supreme Court held that referring to someone as “a real tool” falls into the category of pure opinion because the term “real tool” cannot be reasonably interpreted as stating a fact and it cannot be proven true or false.<sup>29</sup>
- **Consent:** If the plaintiff consents to the publication of the statement in question, they can’t claim defamation.
- **Statutory defenses:** Certain defenses are prescribed by law, such as anti-SLAPP (strategic lawsuit against public participation) statutes.<sup>30</sup>

**Reputation Damages**

Reputation damages are recoverable but not susceptible

to precise calculation, courts have said.<sup>31-33</sup> Even so, an award of damages cannot be based on mere speculation that the plaintiff's reputation suffered.<sup>31</sup>

"Special damages consist of the loss of something having economic or pecuniary value, which must flow directly from the injury to reputation caused by the defamation and not from the effects of the defamation."<sup>22</sup> Damages must be specific; they must be fully and accurately stated.<sup>34</sup> Round figures aren't enough.<sup>22</sup>

Note that the average defamation settlement will depend on the specific facts. And although there's no such thing as an "average defamation settlement," there are several factors that determine a settlement, such as:

- The nature of the defamatory statements
- Whether a plaintiff can prove economic damages with bank statements, tax returns, and other financial records
- Whether a plaintiff can demonstrate actual malice to substantiate punitive damages
- If a plaintiff uses expert witnesses to establish general damages such as emotional distress
- The credibility of each side's witnesses and evidence

### What Can a Provider Do About Defamation to Their Business?

At a bare minimum, a provider may engage an attorney to send a cease-and-desist letter to someone who posts an untruthful review, which may warn others of the risks of such defamatory statements. An urgent care owner who is the victim of online defamation should take a screenshot of the defamatory statements to preserve a record of that evidence.<sup>35</sup>

With the help of an attorney, a provider may be able to prove that the statements in a negative online review by a patient are false and constitute defamation. If so, the author may be liable for damages to the provider's professional reputation.

In addition, the urgent care provider may try to contact the review website directly to remove the defamatory statements. While this can prove difficult, providers can address the negative reviews by encouraging legitimate and satisfied patients to post their honest reviews to eventually lose the unfair review in a long list of positive reviews.

Urgent care owners should understand that—as mentioned above—truth is an absolute defense to a defamation claim.<sup>36</sup> So, if an urgent care is under investigation for state health regulation violations, and it's reported truthfully, it is not defamation.<sup>37</sup>

### No Defamation Lawsuits Under HIPAA

If employees of a medical provider were to reveal the protected health information about a patient, thus sully the patients' reputation...could that provider be subject to a defamation lawsuit? Take, for instance, the high-profile case of Jussie Smollett who was recently sentenced by a Cook County, IL judge to 5 months in jail after being convicted of filing a false police report claiming he had suffered a racist and homophobic attack.

Preceding the trial, at least 50 employees of Northwestern University Memorial Hospital in Chicago were terminated for accessing Smollett's medical record without a "need to know" as prescribed by privacy provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). Presumably, any of those employees could have leaked information to the press. If that had occurred, could Smollett sue the hospital under HIPAA?

Most likely not. There's no private cause of action in HIPAA, meaning a patient cannot sue for a HIPAA breach even if their protected health information has been impermissibly disclosed and even when the patient has been harmed as a direct consequence of that violation.

HIPAA does not have a private cause of action. Only the government can prosecute a provider or covered entity under HIPAA. Typically, patients submit a complaint to the Department of Health and Human Services' Office for Civil Rights (OCR), which is the primary enforcer of HIPAA compliance. Complaints must be submitted within 180 days of the discovery of the violation.

In cases of alleged criminal violations of HIPAA, such as use of patient data for personal profit or malicious purposes, patients can complain to the Department of Justice as well as professional boards such as their state Board of Medicine and Board of Nursing, and to state attorneys general, who all have the authority to pursue cases against HIPAA-covered entities.

In some jurisdictions, state privacy laws (HIPAA is federal) may enable patients to sue healthcare providers for privacy violations on the grounds of negligence and breach of implied contract. The plaintiff must establish that physical, mental, or financial harm was more than likely suffered as a result of the covered entity's negligence or failure to comply with state laws.

Adapted from Garrity M. 50 Northwestern Memorial Hospital employees fired for accessing Jussie Smollett's records. *Becker's Hosp Rev.* March 19, 2022. Available at: <https://www.beckershospitalreview.com/hospital-management-administration/50-northwestern-memorial-hospital-employees-fired-for-accessing-jussie-smollett-s-records.html> and Compliance Junction. Who can sue for a HIPAA violation? Available at: <https://www.compliancejunction.com/sue-for-a-hipaa-violation/>. Accessed March 28, 2022.

**Summary**

- Slander and libel are two distinct forms of defamation. Where slander occurs when someone is defamed in oral communication, libel is committed when someone is defamed in writing (including imagery).
- Charges of defamation can effectively be defended against based on:
  - Truth
  - Privilege
  - Opinion
  - Consent
  - Statutory defenses
- Damages in a defamation case can be difficult to quantify, as the offense is to one’s reputation. However, a settlement amount may be based on the nature of the defamatory statements; whether a plaintiff can prove economic damages with bank statements, tax returns, and other financial records; whether a plaintiff can demonstrate actual malice to substantiate punitive damages; if a plaintiff uses expert witnesses to establish general damages such as emotional distress; and the credibility of each side’s witnesses and evidence.
- Damage done to a person’s reputation by virtue of release of personal health information cannot be the basis of a defamation suit. In fact, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) does not have a private cause of action at all. Patients who wish to complain about a HIPAA violation need to submit a complaint to the Department of Health and Human Services’ Office for Civil Rights.

Let’s look at a few more examples:

If a physician is sued for malpractice, a patient can post the following if it is the truth: “I just filed suit in Minnesota District Court against Dr. Spitz for medical malpractice, docket number 22-87145.” That’s a fact and isn’t defamation.<sup>38</sup>

If the patient posts, “I sued Dr. Spitz because he’s a lousy doctor and operated on the wrong hip,” the “lousy doctor” would be the patient’s opinion and if the doctor did actually operate on the wrong hip, that also is a fact, so again, no defamation.

However, if the patient says, “Dr. Spitz is blind as a bat and doesn’t know right from left,” that may be actionable because the doctor isn’t, in fact, blind and he does know right from left. As such, the patient published falsities about Dr. Spitz. But again, remember that Dr. Spitz must prove he and/or his reputation were damaged to recover.

**Takeaway**

Remember, First Amendment freedom of speech generally doesn’t apply to falsehoods. That’s called *defamation*, the defense of which is *truth*. If a patient, competitor, employee, or someone else publishes a false statement about your urgent care or providers, seek the assistance of an experienced attorney to determine if you have an actionable claim with provable damages. ■

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# What Is the Acceptable Miss Rate for a Major Adverse Cardiac Event (MACE)?

## *A Follow-Up Survey After Release of the American College of Emergency Physicians (ACEP) Clinical Policy on Acute Coronary Syndromes*

**Urgent message:** Previously *JUCM*-published research revealed that even very low risk for a major adverse cardiac event left clinicians uncomfortable with discharging patients per 2018 ACEP guidelines. What can be learned from a follow-up study reflecting the updated version?

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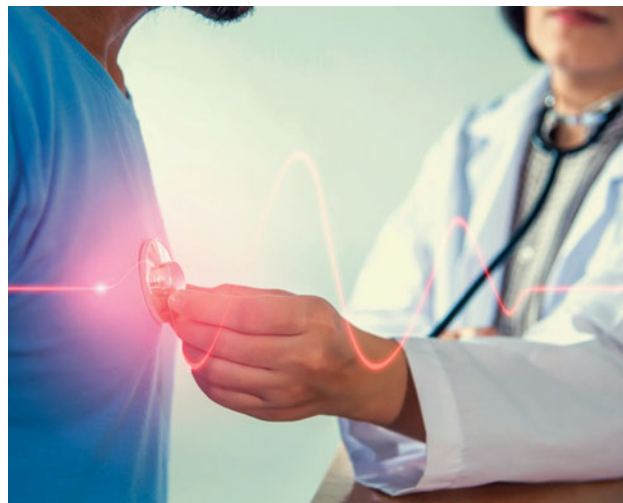
### Abstract

#### Introduction

This study sought to characterize the acceptable miss rate among participants of the Essentials of Emergency Medicine conference in 2021 to determine if responses have changed since the publication of the 2018 chest pain guidelines of the American College of Emergency Physicians. A very low “acceptable miss rate” among clinicians results in unnecessary admissions and risk of patient harm from nosocomial infections, falls, false positive tests, unnecessary procedures, and expense.

#### Methods

A survey was conducted during the Essentials of Emergency Medicine conference in 2021, the same conference at which the pilot survey was conducted in 2018.



The 2021 survey consisted of one clinical and five demographic questions, identical to the 2018 pilot survey. The clinical question directly polled participants on what percent of possible MACE within 30 days they would be comfortable when discharging a patient presenting to the ED with symptoms of acute coronary syndrome (ACS).

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**Table 1. Polling Question****Clinical question**

What level of possibly missed major cardiac event (MACE) within 30 days do you consider acceptable to allow discharge and cessation of investigation in a patient presenting to the emergency department with symptoms of an acute coronary syndrome (ACS)?

- Missed MACE of 0.01% (1 in 10,000)
- Missed MACE of 0.1% (1 in 1,000)
- Missed MACE of 0.25% (1 in 400)
- Missed MACE of 0.5% (1 in 200)
- Missed MACE of 1.0% (1 in 100)
- Missed MACE of 2.0% (1 in 50)
- Missed MACE of 4.0% (1 in 25)
- Missed MACE of 5.0% (1 in 20)

**Results**

Out of the 126 study participants, most were attending physicians (66.4%) with 0-5 years of clinical experience (37.1%). Nearly half of the participants practiced medicine in the United States, with the remaining participants practicing in Canada (18.7%), Australia (2.4%), United Kingdom (0.8%), and other countries (27.6%). Half of study participants reported an acceptable miss rate of 0.01% to 0.1%. Only 31% of participants were comfortable with a MACE rate of 1% to 2% as recommended by the 2018 ACEP guidelines.

**Conclusion**

Among a small international cohort of emergency medicine providers, a significant number of clinicians were not comfortable with the current ACEP guidelines regarding the acceptable miss rate for MACE, with only 50% comfortable with a miss rate of greater than 0.1% for MACE.

**Introduction**

In 2018, chest pain was the second most common presenting symptom to the emergency department, accounting for 5.5% of all encounters and totaling more than 7 million visits.<sup>1</sup> Chest pain is also a common presentation to the urgent care, either as a primary complaint, or an associated complaint. Clinicians must investigate and triage these patients to avoid deadly consequences such as acute coronary syndrome (ACS), while also weighing the risks of false positive testing, costs of the evaluation, and the risks and benefits of admission. Unfortunately, even with thorough data gathering (history, exam, testing), ACS is occasionally not identified. Therefore, we must define an acceptable miss rate of ACS.

Patients presenting with possible cardiac symptoms are stratified into risk categories; the HEART score and EDACS pathway are two examples of clinical decision aides. The HEART score uses a scoring system based on history, ECG findings, age, risk factors, and troponin.<sup>2,3</sup> With a low-risk HEART score (0-3), there is an expected 0.8%<sup>4</sup> to 1.7%<sup>2</sup> risk of major adverse cardiac event (MACE), defined as death, myocardial infarction, or revascularization in the following 4–6 weeks. With a low-risk score on the HEART pathway (two troponin tests), there is a 0.4% risk of MACE.<sup>3</sup> With a low-risk score on EDACS,<sup>5</sup> there is a 0.54% risk of MACE, based on a 2021 systematic review.<sup>6</sup> Based on the risk, a disposition decision is made based on the recommendation of the clinician and/or with a process of shared decision making (SDM).

Without the ability to completely rule out the possibility of ACS, there is a possibility of a MACE even in low-risk patients.

The question *What is an acceptable rate of MACE (major adverse cardiac event)?* was presented to healthcare providers at the Essentials of Emergency Medicine conference in Las Vegas in 2018 and published previously, showing the majority of clinicians (47%) were only comfortable with rate of MACE less than 0.1%.<sup>7</sup> This previous work was completed prior to the release of the 2018 American College of Emergency Physicians (ACEP) clinical practice guidelines, which recommended a higher acceptable missed diagnosis rate of 1%–2% for a 30-day MACE in nSTEMI ACS.<sup>8</sup>

This study sought to characterize the acceptable miss rate among participants of the Essentials of Emergency Medicine conference in 2021 to determine if responses have changed since the publication of the 2018 ACEP chest pain guidelines.

**Methods**

A survey was conducted during the Essentials of Emergency Medicine conference in 2021, the same conference at which the pilot survey was conducted in 2018.<sup>7</sup> The conference is a 3-day event for continuing medical education credit that is certified by the American Medical Association for Physician's Recognition Award Category. Due to social distancing, the 2021 conference was online only and had a total of 2,187 livestream attendees. The survey was available to all the attendees as a link on the conference app, which the conference attendees were asked to download.

The 2021 survey consisted of one clinical and five demographic questions identical to the 2018 pilot survey. All data were compiled into a Microsoft Excel



spreadsheet. Demographic questions covered professional role, practice setting, years of experience, primary work environment, and country of practice. The clinical question directly polled participants on what percent of possible MACE within 30 days they would be comfortable when discharging a patient presenting to the ED with symptoms of ACS (Table 1). Descriptive statistics were calculated. This investigation received an “exempt” status by the Adena Health System IRB.

**Results**

Out of the 126 study participants most were attending physicians (66.4%) with 0–5 years of clinical experience (37.1%). Nearly half of the participants practiced medicine in the United States, with the remaining participants practicing in Canada (18.7%), Australia (2.4%), United Kingdom (0.8%), and other countries (27.6%) (Table 2).

Half of study participants reported an acceptable miss rate of 0.01% to 0.1%. Only 31% of participants were comfortable with a MACE rate consistent with the 2018 ACEP guidelines of 1% to 2% (Table 3).

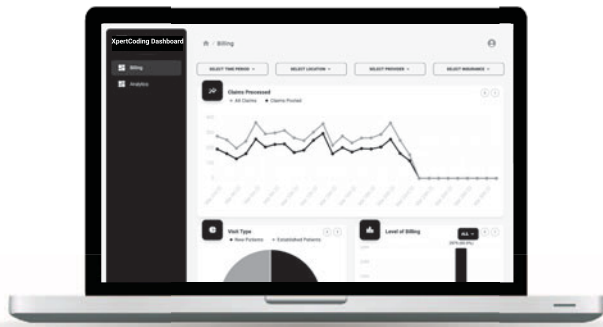
**Discussion**

The ACEP Clinical Policy states an acceptable missed rate of adverse cardiac events is 1% to 2%.<sup>8</sup> In our 2021 study, which demographically had fewer participants from the United States but similar percentage of attending responses, we found that half of the surveyed participants only accept a missed MACE rate of 0.01% or 0.1%, 10-200 times lower than the 2018 recommended ACEP guideline. Furthermore, a similar 2018 study reported that nearly half of surveyed emergency medicine providers also accepted a missed rate of only 0.01%-0.1%.<sup>7</sup> These results are both similar to the original study performed by Than, et al.<sup>9</sup> The evident discrepancy of accepted rates between ACEP and practicing physicians poses a simple question: *Why?*

Though our study defines the acceptable miss rate and not the reasons for such a conservative approach in such a large percentage of clinicians, the risk of litigation can certainly play a decisive role in the influence of how physicians practice medicine. Over 90% of physicians believe that physicians order more tests due to fear of litigation.<sup>10</sup> With missed MI being the leading

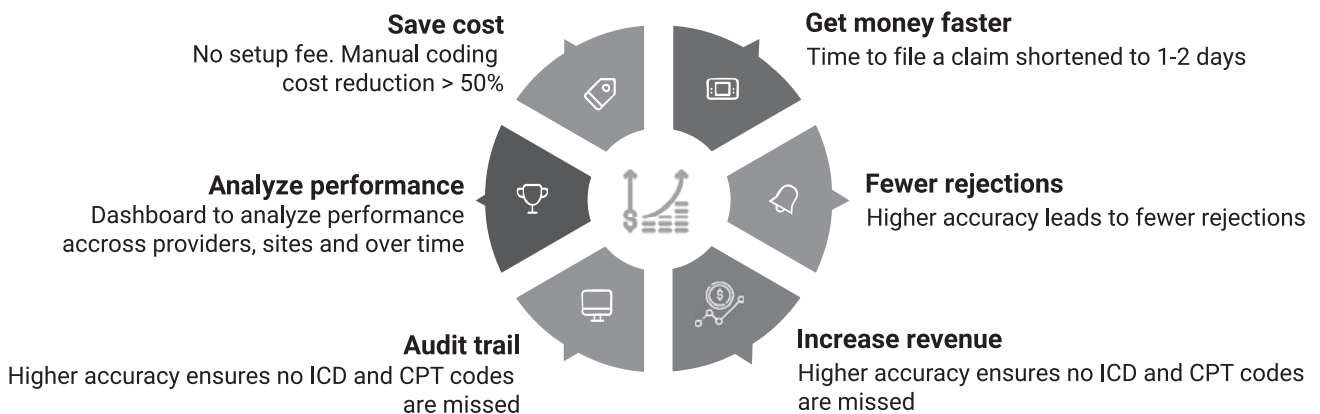
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**Table 2. Demographic Information of Participants (Based on the Total Number for Each Category Where Complete Demographic Data Were Available)**

Country in which you practice (123)?	United States: 62 (50.4%) Canada: 23 (18.7%) United Kingdom: 1 (0.8%) Australia: 3 (2.4%) Other: 34 (27.6%)
Professional role (122)?	Attending/specialist: 83 (66.4%) Resident/registrar/Fellow: 29 (23.2%) Physician assistant: 3 (2.4%) Paramedic: 1 (0.8%) Student: 5 (4%) Other: 1 (0.8%)
What is your primary work environment (123)?	Emergency department: 119 (96.7%) Urgent care: 2 (1.6%) Other: 2 (1.6%)
What is the setting of your current practice (125)?	Academic: 57 (46%) Nonacademic: 63 (50%) Military: 0 Other: 5 (4%)
Years of clinical experience (124)?	0-5 years: 46 (37%) 6-10 years: 30 (24%) 11-15 years: 25 (20%) 16-20 years: 7 (6%) 20+ years: 16 (13%)

Note: All participants did not answer every question

**Table 3. Acceptable Level of Missed MACE at 30 Days**

Question #6: What level of possibly missed major adverse cardiac event (MACE) within 30 days do you consider acceptable to allow discharge and cessation of investigation in a patient presenting to the emergency department with symptoms suggestive of an acute coronary syndrome? (n=126)

0.01% (1 in 10,000)	18 (14%)
0.1% (1 in 1,000)	45 (36%)
0.25% (1 in 400)	4 (3%)
0.5% (1 in 200)	20 (16%)
1% (1 in 100)	34 (27%)
2% (1 in 50)	5 (4%)
4% (1 in 25)	0 (0%)

cause of malpractice claims,<sup>11</sup> it is not surprising that clinicians would want to minimize risk in patients with chest pain. However, a majority of MACEs—58% in Backus’s 2013 validation study—are revascularization procedures as opposed to death or MI.<sup>2</sup>

Admitting or sending a patient with low-risk chest pain to the ED is not without risk. In fact, there is a significant risk of a preventable adverse event with the very act of hospitalization.<sup>12</sup> The majority of these adverse events are related to procedures and medications.<sup>13</sup> A 2014 report by the Centers for Disease Control and Prevention found that 4% of patients had at least one hospital-acquired infection during their inpatient stay.<sup>14</sup>

Although missed MIs may pose medicolegal risk as well as a justified hospital stay, risk-stratification algorithms such as HEART and EDACS can greatly lower the risk of inappropriately discharging a patient home. Mahler, et al found that 0.4% of patients who were identified as low risk using the HEART score experienced death or an acute MI within 30 days.<sup>3</sup> Use of the EDACS decision tool enables clinicians to discharge up to 55% of chest pain patients who were stratified as low risk.<sup>6</sup>

Did the recommendations for an acceptable miss rate from ACEP in 2018 change practice? With an identical survey being performed at the same conference both before and after the ACEP guidelines, we did not find any change in the acceptable miss rate of the clinicians who responded to this survey. The time it takes to translate findings from biomedical research to standardized patient care is up to 17 years.<sup>15</sup> Our study was completed 3 years after the new acceptable missed MACE rate was published by ACEP in 2018.

**Limitations**

Our response rate is incalculable, as the survey was only available to those who downloaded the conference app, and those data are unavailable. It is possible that many of the 2,187 virtual attendees did not download the app and as such were not eligible to take the survey. That being said, the response rate was likely low, potentially reflecting a small sample pool including doctors, physician assistants, and nurse practitioners that participated in the study. Over 50% of those who completed the survey were practitioners within the U.S., which presents more variability from the originally surveyed clinicians in 2018, but still only represents certain populations of emergency care.<sup>7</sup>

The low number of total responses, coupled with the responders all being attendees at a medical conference, may reflect selection bias and may limit the external validity of these findings. There was one respondent who did not answer all questions, but their identity was not able to be verified so the number of respondents in the demographic table and the answers to the question about MACE are not equal (of the 126 study participants, answers to all of the demographic questions

include only 122 responses).

There are different tools used to define low-risk patients and risk of MACE, such as HEART and EDACS. The HEART score is commonly utilized in the ED, but the lack of questions relating to other clinical decision support tools, including EDACS, may have limited the degree of clinicians' ability to sort patients into definitive categories.

Though the answers to the actual question may be accurate, the wording of the question may serve to draw the participant to an incorrect conclusion; use of the word "missed" may imply litigation and poor practice<sup>16</sup> and simply because MACE was missed, does not necessarily imply an adverse patient outcome.<sup>17</sup>

### Conclusion

Among a small international cohort of emergency medicine providers, a significant number of clinicians were not comfortable with the current ACEP guidelines regarding the acceptable miss rate for MACE, with only 50% comfortable with a miss rate of >0.1% for MACE. ■

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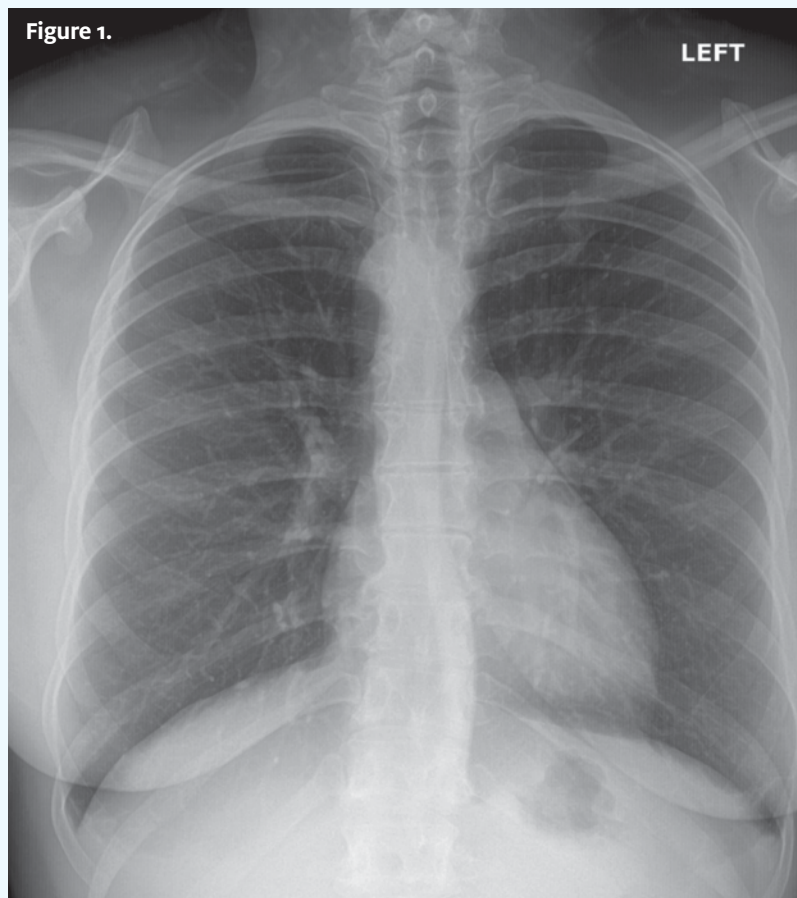




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## A 35-Year-Old with a Persistent, Frequent Cough

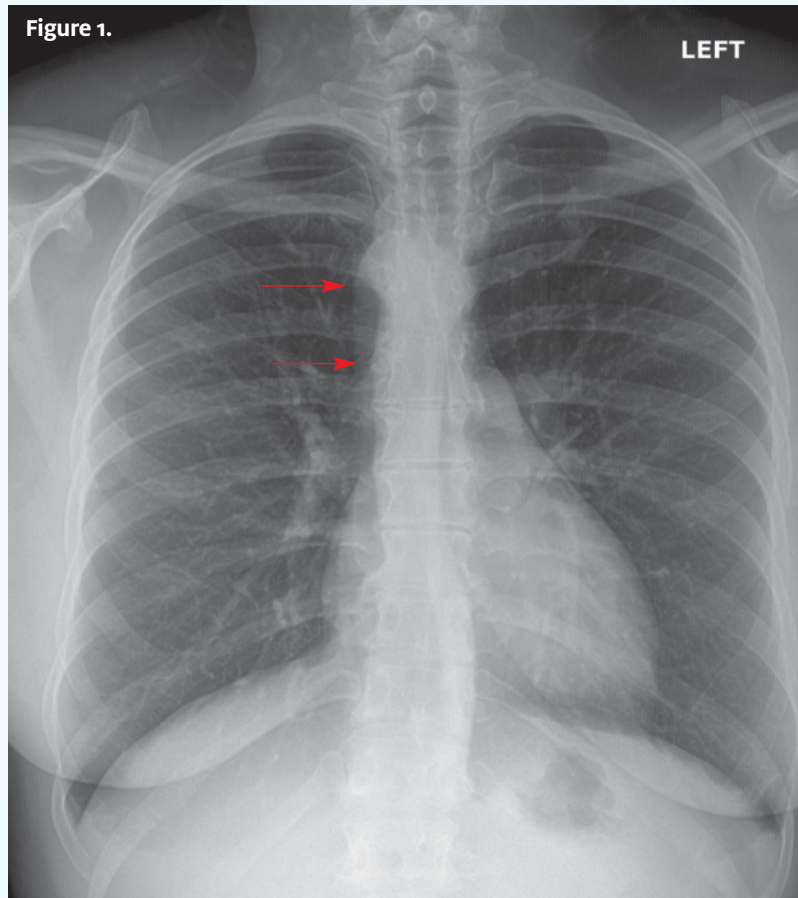


### Case

The patient is a 35-year-old woman who presents with a frequent, light cough of several months' duration. Her medical history is unremarkable, including no history of COVID-19. She is a former "social smoker" who worked out on a treadmill sporadically before the cough began.

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

## THE RESOLUTION

**Differential Diagnosis**

- Bronchiolitis
- Pneumonia
- Stridor
- Right aortic arch

**Diagnosis**

This patient was diagnosed with right aortic arch. The two most common patterns of right aortic arch are the right-sided aortic arch with mirror image branching and the right-sided aortic arch with aberrant left subclavian artery. This occurs in approximately 0.1% of the population.

**Learnings/What to Look for**

- Right arch with mirror image branching is associated with cyanotic congenital heart disease, including tetralogy of Fallot, truncus arteriosus, tricuspid atresia, and transposition of the great vessels
- Right arch with aberrant subclavian artery rarely produces symptoms as it usually has normal intracardiac anatomy. It is usually incidental although, rarely, it can cause esophageal and/or tracheal compression

**Pearls for Urgent Care Management**

- Generally, an isolated right aortic arch is a benign lesion
- Right aortic arch and left pulmonary artery anomalies may be more concerning, as well as being more difficult to identify
- Referral to cardiology is appropriate

**Acknowledgment:** Images and case presented by Experity Teleradiology ([www.experityhealth.com/teleradiology](http://www.experityhealth.com/teleradiology)).



## A 10-Year-Old with Fever, Headache, Muscle Aches, Nausea—and a Suspicious Rash

Figure 1.



### Case

The patient is a 10-year-old girl who presents to urgent care with 3 days of fever, headache, muscle aches, nausea, and a skin rash. She has a temperature of 102°F. On examination you find numerous erythematous macules and purpura on her palms and the soles of her feet.

The patient is immunocompetent with an unremarkable medical history. Her mother recounts no recent travel from their home in North Carolina, but notes that the patient spent a day

gardening with her grandmother approximately 1 week prior to the appearance of the rash and other symptoms. The mother is concerned this could be an allergic response to contact with a toxic plant or a response to a bug bite.

View the photo and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

## THE RESOLUTION

**Differential Diagnosis**

- Human *Anaplasmatocae* infection
- Rocky Mountain spotted fever
- Acute meningococemia
- West Nile virus

**Diagnosis**

This patient was diagnosed with Rocky Mountain spotted fever (RMSF). The rash in RMSF is characteristically seen on days 2–5 after fever, often with macules on wrists, forearms, or ankles and can spread to the hands or soles of feet. A petechial rash can be seen but often not until 5–6 days of illness with progressive disease and concomitant thrombocytopenia.

RMSF is caused by gram-negative *Rickettsia rickettsii*. It is spread by the American dog tick and Rocky Mountain tick. Infection occurs via a bite or by crushing the tick and transmitting the fecal matter to a mucosal surface (eg, by rubbing the eyes).

Despite its eponymous name, RMSF occurs over a wide distribution of locations throughout the contiguous United States, more commonly in Arkansas, Missouri, North Carolina, Oklahoma, and Tennessee. More than 90% of cases occur between April and September. Occurrence is more common in males, and higher in children than adults.

Case fatality rate without treatment, including in otherwise healthy adults and children, is 20% to 30% with a median time to death of 8 days. Though incidence in the U.S. has increased over the past several years (from 300–800 to 2,000 cases annually), fatalities have decreased due to enhanced recognition and early treatment.

**Learnings/What to Look for**

- Early clinical manifestations of RMSF include high fever, severe headache, myalgia, vomiting, and macular rash. Later manifestations include petechial rash, photophobia, confusion, ataxia, seizures, cough, dyspnea, arrhythmias, jaundice, and severe abdominal pain
- Thrombocytopenia or hyponatremia may be seen

**Pearls for Urgent Care Management**

- Diagnosis is made clinically, especially in prevalent areas during peak seasons. Serologic testing is available but typically not effective until after the first 5 days of symptoms when antibodies are detectable
- Doxycycline is the treatment of choice for all ages, including children and pregnant women and is most effective at preventing severe complications if started within 5 days of onset<sup>1</sup>
- Fever typically subsides within 24 to 48 hours of initiating treatment. Severe illness may require longer periods of treatment before resolution of fever
- Atypical presentations, severe illness, or prolonged symptoms should involve infectious disease experts for more comprehensive evaluation

**References**

1. Centers for Disease Control and Prevention. Rocky Mountain Spotted Fever (RMSF). Available at: <https://www.cdc.gov/rmsf/healthcare-providers/treatment.html#:~:text=Doxycycline%20is%20the%20treatment%20of,children%20%3C8%20years%20of%20age>. Accessed March 28, 2022.

**Acknowledgment:** Images and case presented by VisualDx ([www.VisualDx.com/JUCM](http://www.VisualDx.com/JUCM)).





## A 58-Year-Old Male with Chest Pain

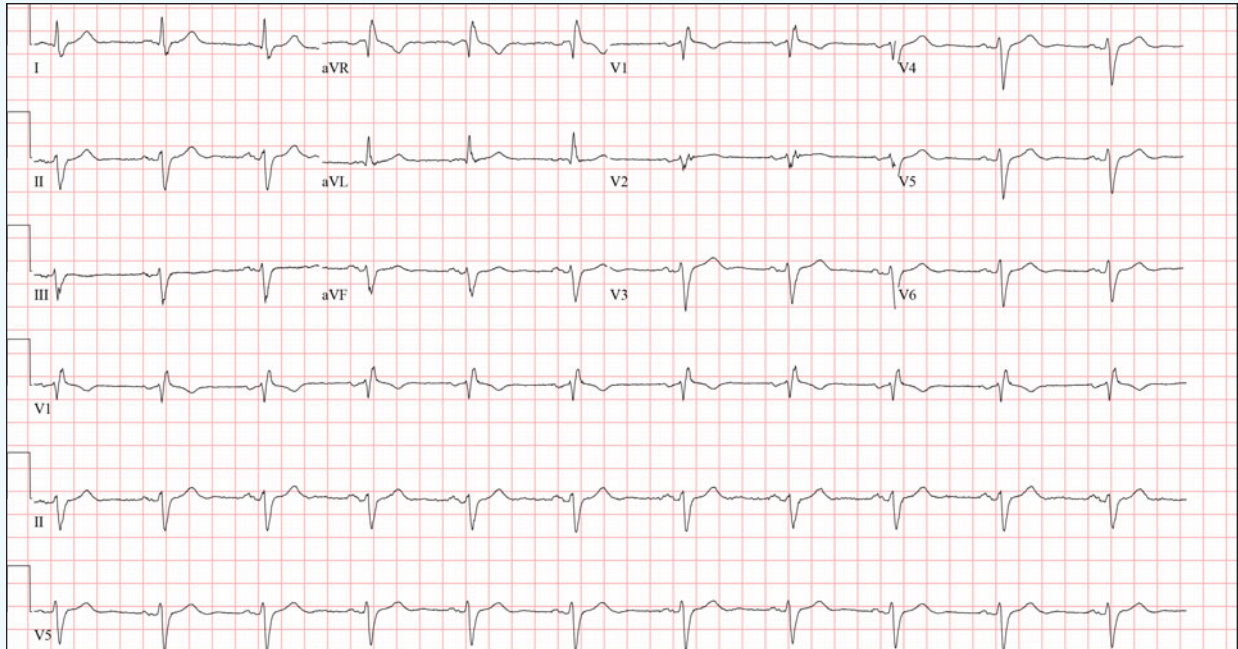


Figure 1. Initial ECG.

The patient is a 58-year-old male who presents with chest pain. He describes it as sharp, lasting seconds, and worsened by lifting objects at work.

Review the initial ECG taken and consider what your diagnosis and next steps could be. Resolution of the case is described on the next page.

*(Case presented by Tom Fadiel, MD, Assistant Professor, McGovern Medical School, The University of Texas Health Sciences Center of Houston.)*

THE RESOLUTION

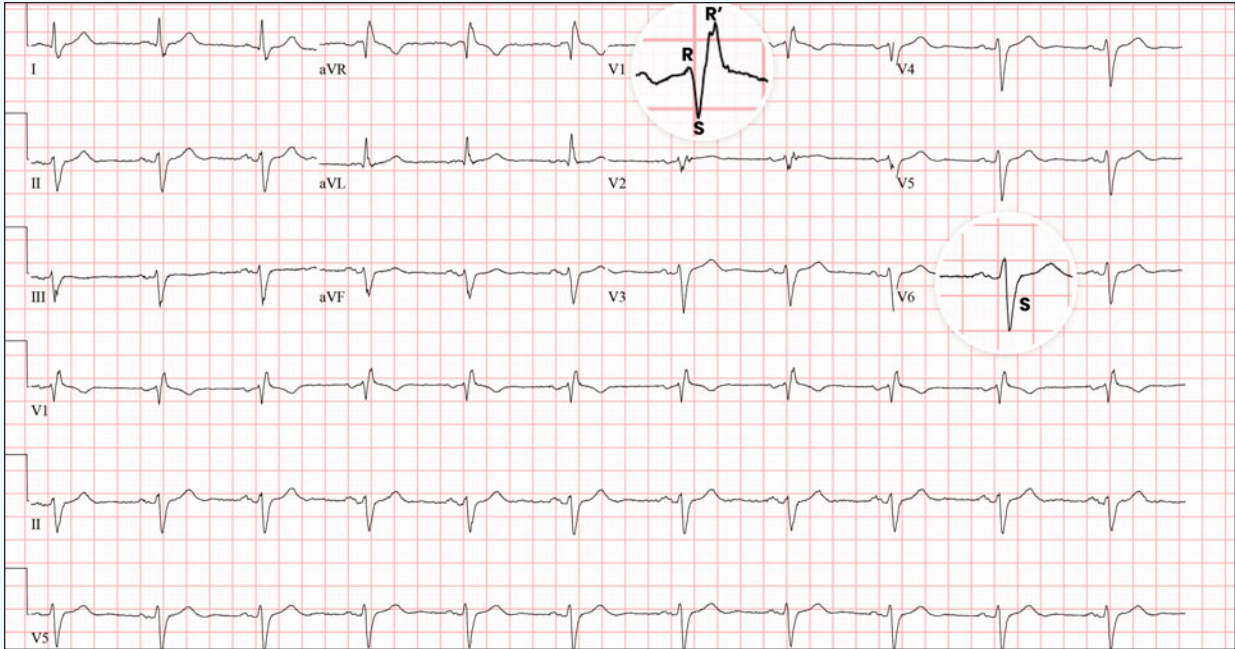


Figure 2. Inlays show an RSR' in V1 and a deep S-wave in V6, characteristic of a RBBB.

Differential Diagnosis

- Ventricular pacing
- Ventricular preexcitation (Wolff-Parkinson-White)
- Accelerated idioventricular rhythm
- Bifascicular block
- Hyperkalemia

Diagnosis

The ECG shows a normal sinus rhythm at a rate of 66 bpm. There is leftward axis deviation with normal PR/QT intervals and a widened QRS complex (>120ms). There are no overt signs of ischemia.

This patient was diagnosed with a bifascicular block.

When evaluating the cause of the widened QRS, we note an RSR' in the anterior precordial leads (V1, V2), as well as a deep S-wave in the lateral leads (I, V6) suggestive of a right bundle branch block (RBBB) (Figure 2).

This finding does not, however, explain the leftward axis deviation as isolated right bundle branch blocks maintain normal activation of the left ventricle (the predominant contributor to the QRS axis). Other causes of leftward axis deviation are absent:

1. There is no left bundle branch block or paced rhythm
2. No q-waves are identified to suggest inferior myocardial infarction
3. No criteria for left ventricular hypertrophy are met
4. There are no signs of ventricular preexcitation (WPW)

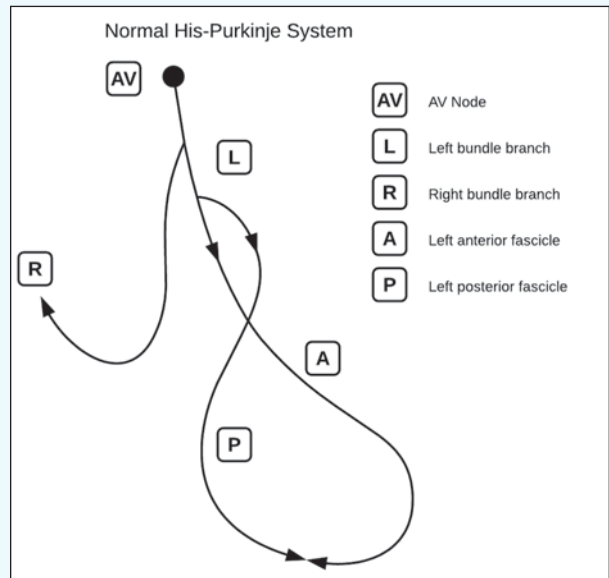


Figure 3. His-Purkinje system.

In this case, the leftward axis deviation points to the disruption of another infranodal conduction pathway—the left anterior fascicle.

The normal infranodal conduction divides into the right and left bundles; the latter is further subdivided into anterior and

## THE RESOLUTION



**Figure 4.** Upright in lead I, downgoing in lead aVF pointing to left axis deviation.

posterior divisions or “fascicles” (**Figure 3**). Disruption of both fascicles produces the familiar left bundle branch block (LBBB) pattern, but each fascicle can be affected independently, resulting in either left anterior fascicular block (LAFB) or left posterior fascicular block (LPFB).

When the left anterior fascicle is disrupted, current passes along the posterior fascicle and the left ventricle is depolarized in a leftward/upward direction, producing left axis deviation (and often an extreme left axis deviation, ie, more than  $45^\circ$  of leftward deviation). Conversely, an LPFB results in depolarization in a rightward/downward direction and produces right axis deviation.

Our patient’s ECG demonstrates disruption of two fascicles, the right bundle and the left anterior fascicle, and is termed a “bifascicular” block. While theoretically a left bundle branch block affects two fascicles, the term is reserved for the combination of an RBBB with LAFB or LPFB.

The clinical significance of bifascicular blocks is heavily dependent on the clinical context. As discussed previously, infra-nodal conduction disturbances can suggest structural heart disease. However, the rates of progression to dysrhythmias warranting intervention (eg, complete heart block requiring permanent pacemaker placement) are low—particularly in asymptomatic patients.<sup>1</sup>



**Figure 5.** (A) qR complex in aVL, (B) prolonged R wave peak time in aVL  $>45$ ms.

### Learnings/What to Look for

The combination of a right bundle branch block with otherwise unexplained axis deviation suggesting corresponding left anterior or posterior fascicular block defines bifascicular block.

In isolation, left anterior fascicular block (LAFB) are defined by:<sup>2</sup>

- QRS  $<120$ ms
- Left axis deviation (**Figure 4**)
- qR complexes in leads I, aVL (**Figure 5A**)
- Prolonged R wave peak time in aVL  $>45$ ms (**Figure 5B**)

### Pearls for Urgent Care Management

For asymptomatic patients with incidental identification of bifascicular blocks, no further evaluation or therapy is indicated. Symptomatic patients (presyncope, syncope) should be transferred for telemetry monitoring, echocardiography, and possible electrophysiologic evaluation.

### References

1. McAnulty JH, Rahimtoola SH, Murphy E, et al. Natural history of “high-risk” bundle-branch block: final report of a prospective study. *N Engl J Med.* 1982;307(3):137-143.
2. Surawicz B, Childers R, Deal BJ, et al. AHA/ACCF/HRS recommendations for the standardization and interpretation of the electrocardiogram: part III: intraventricular conduction disturbances: a scientific statement from the American Heart Association electrocardiography and arrhythmias committee, council on clinical cardiology; the American College of Cardiology Foundation; and the Heart Rhythm Society. Endorsed by the international society for computerized electrocardiology. *J Am Coll Cardiol.* 2009;53(11):976-981.



## Urgent Care Billing: Best Practices Scorecard

■ MONTE SANDLER

When it comes to measuring your financial performance, metrics translate the actions of others into insight. They provide visibility into the efficacy of your overall billing process. But while they may shine a light on where you need to improve, they don't tell you how to do it.

For a better understanding of how well your clinic is optimizing the billing process, look at your everyday practices. Our revenue cycle management (RCM) experts compiled 10 questions that reflect how well you're set up to be paid timely and correctly.

Complete the evaluation below to see whether your clinic's standard practices are proven best practices. Refer to the scoring section to see what else can help you get from delayed to paid.

### Self Evaluation

**1. For patients that have credit cards, how often do you use a credit card on file to resolve outstanding patient balances?**

Answer	Score
95%-100%	+4
75%-95%	+3
Less than 75%	+2
I don't use credit card on file	+1

**2. How confident is your staff in being able to ask for payment on outstanding balances?**

Answer	Score
Extremely	+4
Somewhat	+3
Not very	+2
No idea	+1



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

**3. When insurance verification tells you a patient doesn't have insurance, how often does your staff create a payment plan with the patient or collect payment at time of service?**

Answer	Score
95%-100%	+4
75%-95%	+3
Less than 75%	+2
I don't use real-time eligibility	+1

**4. How often do you review your Days Sales Outstanding (DSO) metric?**

Answer	Score
Monthly	+4
Quarterly	+3
1-2 times a year	+2
I don't know what this is	+1

**5. What percentage of your outstanding accounts receivable over 120 days old do you follow up on each month?**

Answer	Score
80%-100%	+4
60%-79%	+3
40%-59%	+2
0%-39%	+1

**6. How frequently are you reviewing payer enrollment plans with your clearinghouse?**

Answer	Score
Monthly	+4
Quarterly	+3
1-2 times a year	+2
Not annually	+1

**7. How frequently do you run month-end financial performance reports?**

Answer	Score
Monthly	+4

Quarterly	+3
1-2 times a year	+2
Not annually	+1

**8. What percent of your patients with outstanding bills receive text balance reminders?**

Answer	Score
95%-100%	+4
75%-94%	+3
Less than 75%	+2
I don't have this ability	+1

**9. About what percent of your patients use electronic registration before their visit?**

Answer	Score
95%-100%	+4
75%-94%	+3
Less than 75%	+2
I don't have this ability	+1

**10. How often do you review your monthly rejections and denials for root cause?**

Answer	Score
Daily	+4
Weekly	+3
Monthly	+2
Never	+1

**Scoring Analysis**

Tally your answers above and find where your score fits in below. Feel free to check out all the resources linked in this section no matter where you fall on the scale. They're free!

**37-40:** WOW! You're nailing these billing best practices! It might be time to act as more of a mentor than a mentee. If you're an Experity customer, the company has a place where you can connect with other experts, build your personal brand, and share your expertise with a larger audience. Consider joining the Experity A List. (For more information: <https://www.experityhealth.com/alist/>)

**30-36:** Great! You're generally executing good-to-best practices. If you want to refine your processes, make sure you're taking advantage of automation in things like patient registration, text balance reminders, and real-time eligibility (RTE). This is covered in a blog from Experity, called Urgent Care Billing Optimization: How to Improve Your RCM (<https://www.experityhealth.com/blog/how-to-optimize-your-urgent-care-billing-process/>). The company also provides monthly billing tips like those found in How to Improve E/M Coding Accuracy and Billing Dos and Don'ts ([https://www.experityhealth.com/blog/how-to-improve-e-m-](https://www.experityhealth.com/blog/how-to-improve-e-m-coding-accuracy-and-billing-dos-and-donts/)

[coding-accuracy-and-billing-dos-and-donts/](#)). These may be especially helpful as you navigate confusing coding changes.

**25-30:** You're so close to being on track. Looks like you're leaning away from recommended practices on at least a few things. So, all around, you probably have room to improve. If you have already read the blog mentioned above on how to evaluate your billing process, you may be interested in *10 KPIs to Watch in Your Urgent Care*, an e-book on key performance indicators available at <https://www.experityhealth.com/ebooks/10-kpis-to-watch-in-your-urgent-care/>. It explains how to calculate 10 foundational metrics and the factors that impact each so you can determine the best action to take. I would also recommend you get a free billing analysis to dive into the specific areas in which you can improve and what would help the most. (For more information: <https://www.experityhealth.com/explore-billing-analysis/>.)

**10-25:** Definite room for improvement. You seem to either be unfamiliar with many of these practices or simply not sure where you're at. But the good news is you can improve right away! The easiest step to take is to sign up for the free billing analysis described in the previous paragraph. Experity experts will evaluate your clinic and clearly explain what steps can help you improve your score. The company also offers a downloadable guide to billing and operations that covers common billing mistakes, key performance indicators (KPIs), best practices, and more. That's available at <https://www.experityhealth.com/ebooks/urgent-care-billing-operations-guide/>. And if you want those KPIs explained a bit better, you can watch an on-demand webinar that covers them at <https://www.experityhealth.com/webinars/urgent-care-kpis/>.

There is no magical way to fix your RCM performance. The best approach is to take it one step at a time and try to get better every day. Remember, if you can't measure, you can't manage. ■

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## Yes, Urgent Care Lost Visits During the Pandemic—but Other Settings Lost Far More

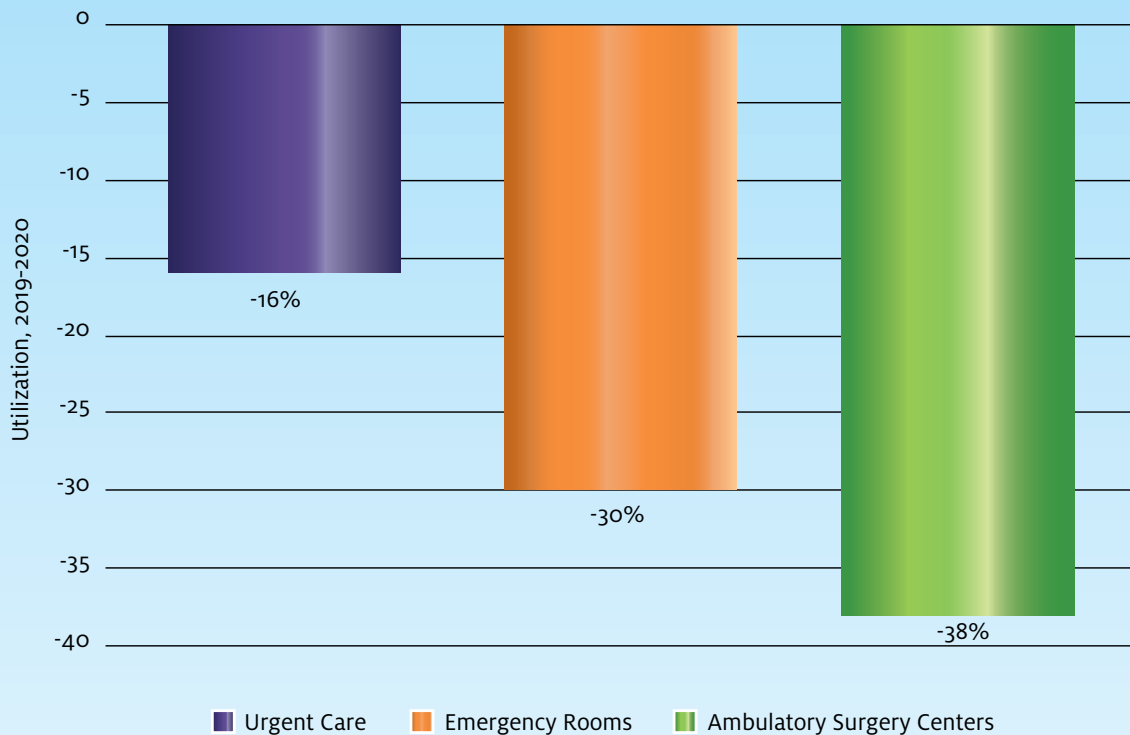
It won't be news to you that patient visits dropped—precipitously at times—over the course of the COVID-19 pandemic. And there's no getting around the fact that business has suffered, though it's also a plain fact that many patients are returning.

What is probably less evident, but certainly interesting, is that between 2019 and 2020 urgent care centers saw less of a decline in utilization than emergency rooms and ambulatory

surgery centers, as illustrated in the graph below.

At the same time, according to the same report from FAIR Healthcare, urgent care centers continued to prove a more cost-effective choice for healthcare consumers in 2020. The median charge for a visit to an urgent care center that year was \$221, compared with a median charge of \$226 for visits to a traditional physician's office.

### COMPARISON OF ESTIMATED 'LOST' VISITS DURING THE PANDEMIC




Data source: FH Healthcare Indicators and FH Medical Price Index. FAIR Health. Available at: <https://s3.amazonaws.com/media2.fairhealth.org/whitepaper/asset/FH%20Healthcare%20Indicators%20and%20FH%20Medical%20Price%20Index%202022--A%20FAIR%20Health%20White%20Paper.pdf>. Accessed April 5, 2022.



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