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## Diagnosis Errors in the Emergency Department



**EMERGENCY DEPARTMENT  
DECISION-MAKING**  
Common Cognitive Biases



**CASE STUDY**  
Delayed Diagnosis of Sepsis

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# Diagnosis Errors in the Emergency Department

## INTRODUCTION

Emergency physicians are expected to diagnose the health conditions of strangers presenting with every imaginable symptom within the narrowest time frames in an often chaotic, disruptive, and overcrowded work environment. It shouldn't be surprising that diagnostic errors are a leading cause of emergency department (ED) liability claims.<sup>1</sup>

Diagnostic errors have multifactorial causes that involve both systems and individual failures. Research indicates that the root causes of most ED diagnostic errors are cognitive—not due to a lack of knowledge, but rather, reasoning problems.<sup>2</sup> Cognitive psychology research describes medical diagnostic reasoning as a dual-process endeavor. The two main cognitive pathways to diagnosis are intuitive and analytical. Physicians use a combination of the two modes, switching back and forth as necessary.<sup>3</sup> When in an intuitive mode, physicians employ heuristics. Heuristics are intuitive mental shortcuts based on disease pattern recognition. Heuristic failures are referred to as cognitive biases. Intuitive thinking is fast and effortless but can easily be affected by cognitive biases, which can result in misdiagnosis. (It should be noted that experienced clinicians often use heuristics very effectively.) Analytical thinking is slower, and less prone to bias, which can result in greater diagnostic accuracy, but does not always do so. And in the ED, there may not be time for slow, methodical thinking.<sup>4</sup>

Several cognitive debiasing strategies have been introduced that require physicians to analyze and potentially change the way they think. Cognitive debiasing strategies include:<sup>5</sup>

- Learning how cognitive biases can affect the diagnostic process, and recognizing when it is happening
- Generating multiple diagnostic hypotheses, even when the diagnosis seems obvious
- Attempting to disconfirm rather than confirm initial diagnostic hypotheses
- Deliberately disengaging from an intuitive judgment and engaging in an analytical process to verify an initial diagnosis
- Reflecting on one's reasoning as it unfolds, with the objective of identifying when it goes off course

Whether and which debiasing strategies alone or in combination are effective is a matter of debate.<sup>6</sup>

A different way of looking at cognitive debiasing focuses on "cognitive load." The amount of thinking activity that a physician manages at a given moment (cognitive load) is very high in the ED.<sup>7</sup> High cognitive load can lead to an increased default to intuitive thinking, which can increase heuristic use, causing greater tendencies toward cognitive biases. Cognitive load can be reduced with a combination of system and individual strategies. For example, a system solution for decreasing physician cognitive load would be to appropriately delegate tasks among other members of the ED team. Physicians can reduce their own cognitive load by using tools such as mnemonics, algorithms, practice guidelines, decision rules, and checklists.<sup>8</sup>

The underlying systems that contribute to diagnostic errors in the ED can be addressed by instituting new processes that are more resistant to error.<sup>9</sup> For example, ensuring hospital policies and protocols delineate which staff and clinicians are responsible for a boarded patient's care is a systems strategy that can reduce the risk of diagnostic error, but would not necessarily be associated with addressing cognitive bias.

In this publication, we present a delayed diagnosis of sepsis case study based on a closed malpractice claim. One of the objectives of presenting case studies based on actual diagnosis error closed claims is to prompt readers to develop a routine of asking: What else might this be, what is the worst possible diagnosis, and is there a less common diagnosis I should consider? Strategies for administrators and clinicians are introduced to address diagnostic error in the ED from multiple angles.



## EMERGENCY DEPARTMENT DECISION-MAKING

# Common Cognitive Biases

Over 100 cognitive biases have been identified. Many are likely to play a significant role in diagnostic errors in the ED.<sup>10</sup> Researchers studying cognitive processes in diagnosis believe physicians would make fewer diagnostic errors if they were aware of heuristics and cognitive biases and knew how to manage them.<sup>11</sup> Some of the more common cognitive biases contributing to misdiagnosis in the ED include:

### **Anchoring Bias**

Anchoring bias refers to prioritizing information and data that support an initial impression despite becoming aware of subsequent evidence that indicates the impression should be adjusted.<sup>4</sup>

### **Confirmation Bias**

Confirmation bias relates closely to anchoring bias. It refers to selectively gathering, confirming, or overemphasizing evidence to confirm an anchor diagnosis while dismissing, downplaying, ignoring, or failing to seek contrary evidence. Confirmation bias can keep clinicians from asking questions that will elicit the answers needed to arrive at an accurate diagnosis.<sup>12,13</sup>

### **Availability Errors**

Availability errors are caused by focusing (or anchoring) on a diagnosis that quickly comes to mind. The diagnosis might be easier to recall because it is frequently encountered, rarely encountered but seen recently, or associated with strong emotions.<sup>14</sup>

### **Diagnosis Momentum**

Diagnosis momentum is the tendency for a particular diagnosis to become established, despite other evidence gathered during a patient's healthcare encounter. It allows a diagnosis label attached to a patient to move forward as a patient is handed off from physician to physician, while other diagnostic possibilities are wrongly excluded.<sup>15</sup>

### **Satisfaction of Search**

Satisfaction of search occurs when a physician stops searching for a definitive diagnosis after finding a satisfactory explanation for the patient's symptoms.<sup>16</sup>

### **Premature Closure**

Premature closure occurs when a physician accepts a working diagnosis as final without objectively establishing it or adequately considering alternatives.<sup>17</sup>



## Delayed Diagnosis of Sepsis

A recent study of diagnostic errors in the ED ranks sepsis as the fourth most likely condition associated with diagnostic error.<sup>2</sup> The following case study demonstrates how a combination of systems, physician cognitive error, and physician misunderstanding of and failure to comply with patient safety protocols can delay the diagnosis and treatment of sepsis. Within the case study presented, try to identify the different types of errors that contributed to the delay in diagnosing sepsis.



### CASE STUDY

**Allegation:** Delayed diagnosis of sepsis resulted in bilateral arm amputations.



The patient arrived at the ED at 5:30 a.m. on a Tuesday. He reported a five-day history of abdominal pain that had increased in intensity to a current level of 10/10. He had also been experiencing nausea, diarrhea, and vomiting for the past 24 hours. He was seen in the ED on previous occasions with similar symptoms, and his medical record indicated he had been recently diagnosed with Crohn's disease, for which he was taking immunosuppressive drugs. His triage vital signs were temperature 99.6, blood pressure 145/90, respirations 21, pulse 91, and SpO2 92% on room air.



The ED physician examined the patient at 6:00 a.m. He did not appear acutely ill to her. She ordered labs and medication for the patient's gastrointestinal complaints and pain, including fluids, and supplemental oxygen. The patient's lab results were normal except for creatinine at 2.0 mg/dL (NL 0.7 to 1.3 mg/dL for men), white blood cell count (WBC) at 17.5 K/mm<sup>3</sup> (this patient's normal after being put on immunosuppressive drugs was 12.0), and neutrophil percent at 89.1% (NL 40-60%). A CT scan of his abdomen and pelvis was unremarkable, other than signs consistent with a history of Crohn's. The ED physician ordered a urinalysis and WBC stool test. (For unknown reasons, they were not performed.) The ED physician suspected the patient's symptoms were being caused by a Crohn's flare-up. Sepsis was not in her differential.



By 7:45 a.m. the patient's abdominal pain was unrelenting, and the ED physician contacted the on-call gastroenterologist to admit him to the medical unit. The patient was admitted at 9:33 a.m., but he remained in the ED because there were no available beds.



At 11:27 a.m., in response to the patient's 104-degree temperature, the ED physician ordered acetaminophen and ice bags. The medical record contained no order for antibiotics or for the nurse to contact the gastroenterologist about the patient's fever. There was no urine output noted. The ED physician did not see the patient after this point.



At 2:05 p.m., an ED nurse updated the gastroenterologist on the patient's condition temperature 102.5, blood pressure 89/59, respirations 19, pulse 112, and SpO<sub>2</sub> 94% on nasal cannula. His abdominal pain had decreased to 4/10. The gastroenterologist ordered a transfer to the patient's internist (who had privileges at the hospital), as he did not believe the patient's symptoms were being caused by gastrointestinal issues. The internist called in at 3:00 p.m. After being updated by the ED nurse, she ordered broad-spectrum antibiotics. The antibiotics were not started until 7:00 p.m. (The reasons for the delay were unclear.)



At 8:08 p.m., the internist examined the patient. She questioned why the patient was still in the ED. Blood pressure was 90/54, temperature was 102.9, pulse was 104, respirations were 36, SpO<sub>2</sub> was 84% on nasal cannula, and he was lethargic. The internist documented "possible sepsis" and had the patient transferred to the intensive care unit (ICU).

In the ICU the patient was treated for sepsis, but his condition declined overnight. He developed respiratory distress with tachypnea and was intubated. He was started on norepinephrine because his mean arterial pressure (MAP) was noted to be less than 65. On Thursday he was extubated, but his arms were noted to be ecchymotic and swollen. He was later diagnosed with gangrene, and both arms were amputated above the elbow. A source of infection was never identified.

The patient filed a lawsuit against the hospital and every member of his healthcare team, alleging the delayed diagnosis of sepsis resulted in above-the-elbow amputation of both arms.

## DISCUSSION

Systems and cognitive issues likely played a role in the patient's delayed diagnosis and treatment, including misunderstanding of the ED boarding policy and sepsis protocol, inadequate physician communication practices, and failing to reconsider the diagnosis of a Crohn's disease flare-up considering the mounting clinical evidence that suggested sepsis.

A major complication in defending this claim was the almost nine-hour period in the ED during which the patient was not seen by any of the three physicians who were at different times responsible for the management of his care.

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## SYSTEMS FAILURES AND PHYSICIAN MISUNDERSTANDINGS OF POLICIES AND PROTOCOLS

Hospital administrators testified the gastroenterologist should have taken responsibility for the patient's management pursuant to the ED boarding policy, until he handed off the patient to the internist. There was a caveat in the boarding policy for responding to boarded patient emergencies. In that case, the ED physician and team were required to step in and stabilize the patient. The ED physician testified that she believed she was responsible for bringing down the patient's 104-degree temperature with acetaminophen and ice packs and ordering the nurse to advise the gastroenterologist of the patient's critical temperature, but she was not responsible for ordering antibiotics. That would have been the gastroenterologist's responsibility. She could not explain why her order to inform the gastroenterologist about the patient's temperature was not documented. Her failure to document communication of the patient's increasingly troubling vital signs to the inpatient physicians complicated her defense, but she would testify that it would have been her standard practice to communicate the information through an ED nurse. She blamed the gastroenterologist and/or internist for the delayed sepsis diagnosis.

The gastroenterologist misunderstood the boarding policy, believing ED physicians remained responsible for patients until they were physically located on the medical unit. He claimed he would have stepped in and made the sepsis diagnosis if advised of the patient's symptoms. He placed the blame on the ED team.



Based on her retrospective review of the patient's medical record during litigation, the internist admitted the patient met the hospital policy for initiating a sepsis protocol at 3:00 p.m., when she took over care. She assumed she either used a different sepsis definition or did not receive adequate information from the ED nurse. This would be a difficult position to defend, as the patient's electronic record contained the information she would have needed, and the hospital sepsis definition was readily available to her.

Plaintiff's experts testified that the ED physician, gastroenterologist, and internist were negligent for failure to order the sepsis protocol, as the patient met the criteria early in his ED stay. Although the plaintiff's expert conceded that sepsis was defined inconsistently at the time the patient was treated, the patient's healthcare team should have known about the hospital criteria for testing, categorizing, and treating sepsis. Not only were the hospital criteria identical to the Centers for Medicare & Medicaid Services criteria, but they were also contained in the hospital policy and protocol manual and were posted on the walls in various spots throughout the hospital. Those criteria were as follows:

### **Systemic Inflammatory Response Syndrome (SIRS)**

Any two criteria:

Temperature  $>100.4^{\circ}\text{F}$  or  $<96.8^{\circ}\text{F}$

Heart rate  $>90$  bpm

Respiratory rate  $>20$  or  $\text{PaCO}_2 <32$  mm Hg

White blood cell count  $>12,000/\text{cu mm}$ ,  $<4,000/\text{cu mm}$  or  $>10\%$  bands

### **Sepsis**

Infection or suspected infection with two or more SIRS criteria

Experts agreed that the plaintiff met three SIRS criteria when he was triaged: heart rate 91, respiratory rate 21, and WBC 17,500/cu mm. However, whether the patient could be categorized as having sepsis was a matter of contention between the defense and plaintiff's experts because they disagreed about whether infection "was suspected." The ED physician denied suspicion of infection. The defense team contended that the patient's WBC count could have been caused by the immunosuppressive medications he was taking for Crohn's disease, which in addition to the patient not appearing "septic," made the ED physician's suspicion of a flare-up reasonable. The plaintiff's expert, however, pointed out that the ED physician ordered various tests to rule out infection, including urinalysis and WBC stool test. Consequently, even though it was not in her differential, she was "considering infection," which should have triggered an order for the sepsis protocol. The plaintiff's expert testified alternatively, if the ED physician did not suspect infection (as her defense team argued she did not), she should have because of the patient's abnormal vital signs: elevated WBC, neutrophil percentage, and pulse. Additionally in the plaintiff's expert's opinion, the patient's elevated creatinine levels and lack of urine output should have alerted the defendant physicians to the potential of organ failure, which would have been an additional pathway to arrive at a sepsis diagnosis. In his opinion, the constellation of signs and symptoms when applied to various sepsis guidelines in effect (including those posted in the ED) should have triggered the sepsis protocol. He concluded that failure to do so was a violation of the standard of care.

## **EFFECT OF COGNITIVE BIAS ON DIAGNOSIS DELAY**

The plaintiff's expert identified various cognitive errors (although he did not label them as such), including anchoring, confirmation bias, satisfaction of search, and premature closure. For example, the expert was critical of the way the ED physician anchored on a Crohn's flare-up. After she had done so, she appeared to stop working toward a definitive diagnosis. The expert believed sepsis should have been rising in the ED physician's differential as the patient's abnormal test results came in and the patient's vital signs continued to worsen. Confirmation bias could explain the ED physician's underappreciation of the information she obtained that did not fit her Crohn's flare-up hypothesis. For



example, she accepted the normal CT scan as proof of lack of infection. She described the patient as “not look[ing] that sick,” as further support for her diagnosis, and she dismissed the patient’s irregular vital signs at triage as responsive to pain. She maintained her suspicion that the high WBC count was caused by the immunosuppressive medications, despite the patient’s primary care record showing the patient’s baseline WBC count on the medications was significantly lower. In this case the initial clinical impression was so strong that it guided diagnosis with little confirmatory data.



Interestingly, during his deposition testimony, the plaintiff’s expert opined on what could be considered debiasing strategies, which in his opinion the ED physician should have applied to increase the opportunity of making the correct diagnosis. For example, he pointed out that patients on immunosuppressive drugs may not look as sick as a usual sepsis patient because their immune system has been attenuated by the drugs. In his opinion, the ED physician should have had this possibility in the back of her mind when using the patient’s appearance as an element of the diagnostic picture. He also highlighted the importance of reevaluating initial diagnoses in light of lab results. In his opinion, the

ED physician should have been tracking the patient’s vital signs and responsively determining next steps, which would have included asking, among other questions: Do I need to run more tests, does my differential need to be adjusted, do I need to change the treatment, and do I need to bring in different consultants?

## LACK OF HAND-OFF COMMUNICATION

There was no indication that the three defendant physicians ever discussed the patient. Part of hand-off involves discussing the state of the diagnostic process, treatment, response to treatment, and outstanding tests. It is an excellent opportunity for receiving physicians to catch cognitive errors that may have occurred during a prior segment of care. Because physicians admitting patients from the ED typically treat patients whose diagnostic workups are already in progress, they are prone to accepting diagnoses affected by the cognitive errors of prior clinicians.<sup>15</sup> Discussion about the diagnostic process can prompt analytical reasoning when a prior diagnosis has been reached through automatic processes.<sup>18</sup> At the very least, the gastroenterologist might have reviewed the patient’s vital signs and questioned the ED physician about her Crohn’s disease flare-up diagnosis.

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## EFFECT OF FINGER-POINTING ON JURIES

As trial approached, and the expert depositions were completed, it became clear that the case would involve a “battle of the experts,” and the outcome would be heavily influenced by whose experts made the most favorable impression on the jury. The experts were strong on both sides. Unfortunately, the defendants blamed each other for failing to adequately communicate the patient’s symptoms, take responsibility for the management of the patient’s well-being, and follow hospital sepsis and boarding protocols. The anticipated finger-pointing during trial was expected to undermine the defensibility of the claims against each defendant and increase the verdict

value potential. Additionally, the hospital would have difficulty defending the two inexplicable failures of staff to accomplish tasks ordered by the physicians—failure to complete a urinalysis and WBC stool test and delayed antibiotic administration. Furthermore, the patient was expected to elicit significant jury sympathy, whereas the defendants came off as defensive and argumentative during deposition testimony. Even with coaching, they were not expected to make favorable impressions on the jury. Finally, the patient’s loss of income, future medical expenses, and pain and suffering damages would potentially be in excess of the policy limits of the defendants. Ultimately, the case settled due to this combination of factors.



## RISK REDUCTION STRATEGIES

The following risk reduction strategies are based on issues that arose in the case study: cognitive error, misunderstood patient boarding policies, noncompliance with sepsis protocols, and inadequate hand-offs.

### Clinicians

Failure to follow guidelines or use screening tools is not, in and of itself, proof of substandard medical care. However, failure to approach diagnosis in an organized manner, lack of documentation, failure to order appropriate laboratory tests, and failure to create a reasonable treatment plan can all be used as evidence to support a plaintiff’s allegations of negligence.

### COGNITIVE DEBIASING

Consider the following risk reduction strategies:<sup>11,18,19,20</sup>

- When a patient presents to the ED, consider and rule out worst-case scenarios.
  - ▶ Do not let a patient’s symptoms from preexisting conditions dissuade you from evaluating a potentially serious condition, such as sepsis.
  - ▶ Obtain a complete history and perform a complete physical examination oriented toward ruling out potentially serious conditions.
  - ▶ Ensure appropriate work-up is initiated to confirm or rule out the diagnosis.
- When appropriate, use clinical guidelines, algorithms, checklists, and hospital protocols.
- Support diagnostic reasoning with patient information discovered from the patient history and physical, and continue to consider and consolidate new data as it is added to the patient’s record.
- Consider an alternate diagnosis or the possibility of more than one diagnosis when an abnormal finding or test result cannot reasonably be explained by the working diagnosis.
- Realize when you have anchored on a diagnosis that is no longer supported by the totality of the medical evidence.
- Regularly review the patient’s record and confirm that your diagnosis makes sense considering the totality of the medical evidence.
- Enlist perspectives from other members of the patient’s healthcare team.
- When you receive a patient, review the signs and symptoms before reviewing the prior physician’s diagnosis to avoid diagnosis momentum.
- Question a colleague’s diagnosis at hand-off in the same way that you would question any other piece of information presented as fact. This can prompt colleagues to recognize when they have anchored on a diagnosis.
- Resist the urge to rush diagnostic decision-making.
- Document the diagnostic process completely, legibly, and accurately.
  - ▶ Include the process of medical investigation, the presence and absence of physical findings, and rationale for not following guidelines.

## PATIENT BOARDING

Consider the following risk reduction strategies:

- Understand your responsibilities pursuant to hospital policy for admitted patients who are boarding in the ED.
- Consider your ethical duties when following hospital policy threatens patient well-being (i.e., if a boarded patient has an emergency condition, and hospital policy designates responsibility to someone else who is not coming to the patient's aid, facilitate patient treatment).
- When an admitted patient is boarding in the ED, engage in appropriate hand-off to inpatient physicians and staff.
- To help ensure that holding orders are appropriate for the patient's status, and that they facilitate safe care, refer to professional associations such as the American Academy of Emergency Medicine and the American College of Emergency Physicians (ACEP) for guidance.

## BOARDING RESOURCES

**American College of Emergency Physicians:** [Responsibility for Admitted Patients](#)<sup>21</sup>

ACEP principles concerning admitted patients

**American College of Emergency Physicians:** [Writing Admission and Transition Orders: Policy Resource and Education Paper \(PREP\)](#)<sup>22</sup>

Explication of the policy statement "[Writing Admission and Transition Orders](#)"<sup>23</sup>

## HAND-OFF

Consider the following risk reduction strategies:<sup>24,25</sup>

- Review the evidence in the record and make sure diagnoses make sense considering the entirety of the information obtained.
- Have laboratory and imaging studies and the patient's progress notes available for review during the hand-off process to facilitate efficient and accurate communication.
- Encourage questions and discussion with the physician receiving the patient.
- Succinctly overview the patient's course in the ED.
- Flag incomplete tasks and pending studies and consultations.
- Anticipate results and suggest contingency plans if the results are not as expected.
- Draw attention to potential patient management issues that could arise shortly after hand-off.
- Signal a clear moment in transition of care.
- Document the hand-off process.

## HAND-OFF RESOURCES

**Joint Commission:** [Inadequate Hand-off Communications](#)<sup>26</sup>

Advice to senders and receivers of hand-off communication, including communication between caregivers within hospitals

**American College of Emergency Physicians:** [Transitions of Care Task Force Report](#)<sup>25</sup>

Strategies for "packaging" care for easy transfer from one physician encounter to the next

## Administrators

Patients with sepsis most frequently enter the healthcare arena through the ED. The key to successful treatment of sepsis is speed of diagnosis and treatment, which can lag when the patient is being boarded in the ED. (Boarding is linked to increased morbidity and mortality in patients with severe infection.)<sup>27</sup> Although the diagnosis process is clinician-centric, a clinician can only accomplish so much within a dysfunctional system. Misunderstood and misapplied protocols should prompt review and revision by administrators. Patterns of diagnosis delay may be a sign that diagnostic pathways require streamlining.<sup>28</sup>

### SEPSIS DIAGNOSIS

Consider the following strategies:<sup>28,29</sup>

- Update protocols, guidelines, and checklists to promptly diagnose and treat sepsis.
- In sepsis protocols and guidelines education and enforcement, be aware that sepsis guidelines may conflict with each other, which may cause inconsistencies in diagnostic and treatment processes among members of the healthcare team.
- Develop electronic health record (EHR) decision-support algorithms that alert staff and clinicians when a patient's symptoms indicate a likelihood of sepsis.
- Put systems in place to activate an effective response to positive findings.
  - ▶ Automatic implementation of a sepsis pathway in patients meeting diagnostic criteria can avoid overreliance on subjective impressions.
- Implement [sepsis teams](#)<sup>29</sup> (rapid response teams dedicated to the prompt recognition and treatment of sepsis patients).
- Develop a plan that defines explicit accountability for sepsis patients who will be boarding in the ED.

### SEPSIS RESOURCES

**American College of Emergency Physicians:** [Early Care of Adults with Suspected Sepsis in the Emergency Department and Out-of-Hospital Environment: A Consensus-Based Task Force Report](#)<sup>27</sup>

Key elements of early sepsis care and practical consensus-based approaches to certain parts of ED sepsis management

**Society of Critical Care Medicine:** [Surviving Sepsis Campaign Guidelines 2021](#)<sup>30</sup>

Detailed, evidence-based guidance for the management of severe sepsis and septic shock

**Betsy Lehman Center for Patient Safety:** [Toolkit: Adult Screening and Treatment](#)<sup>31</sup>

Various downloadable tools including sepsis response pathway, screening tool, and triage algorithm

### BOARDING IN THE ED

Consider the following risk reduction strategies:<sup>23,32,33</sup>

- Ensure hospital policy and procedures delineate staff and physicians responsible for a boarded patient's care.
- If admitted patients must be boarded in the ED, provide supplemental nursing staff.
  - ▶ Have inpatient nurse leaders round on boarded patients to support continuity of care, provide “customer service” to patients and families, and keep inpatient leaders apprised of surges in the ED.
- Reduce the incidence of boarding admitted patients in the ED and improve patient flow.
  - ▶ Involve physician leaders in the development of a process to minimize or eliminate ED boarding.
  - ▶ Modify the influx of patients into the ED (e.g., post wait times, take appointments).
  - ▶ Create realistic ED saturation policies and procedures.
  - ▶ Weigh the risks and benefits of boarding patients in inpatient hallways versus ED hallways.

### ADDITIONAL RESOURCE

**American College of Emergency Physicians:** [Boarding of Admitted and Intensive Care Patients in the Emergency Department](#)<sup>33</sup>

ACEP policy statement on boarding admitted patients in the ED with recommendations for hospital administrators

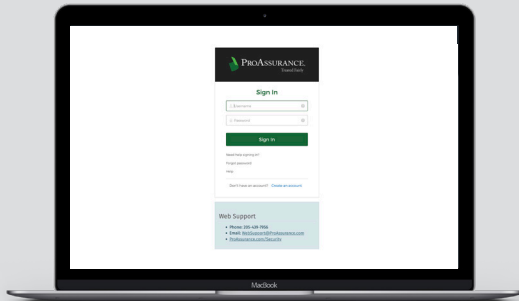
Reducing diagnostic errors in the ED requires everyone on the patient care team and administrators to work on the aspects of error root causes they can change. Clinicians may not be able to control staffing levels in the ED, but they can be aware of common heuristic failures and cognitive biases and recognize when cognitive biases are impacting clinical decision-making.

Sepsis is frequently misdiagnosed in the ED.<sup>2</sup> The case study shows how systems, cognitive errors, and misunderstandings or failures to comply with patient safety protocols can delay the diagnosis and treatment of sepsis. Although policies and protocols are an important initial step to decrease sepsis morbidity and mortality, team members must be adequately trained and systems must be designed, implemented, and updated on a regular basis.

Defending a failure to diagnose liability claim is facilitated by a complete and accurate record of the diagnostic process. A complete record can also help identify system and cognitive process failures, which can be used to improve patient safety going forward.

**Special thanks to Frank Curry, MD, for reviewing this article.**

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## ENDNOTES

The NORCAL Group documents referenced in this article, along with many other risk management resource documents and past editions of *Claims Rx*, are available in the Risk Solutions area of [MyACCOUNT](#), or by policyholder request at 855-882-3412.

- Kelly E. Wong et al., "Emergency Department and Urgent Care Medical Malpractice Claims 2001-15," *The Western Journal of Emergency Medicine* 22, no. 2 (Feb 15, 2021): 333-338, <https://doi.org/10.5811/westjem.2020.9.48845>.
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## ENDNOTES

The NORCAL Group documents referenced in this article, along with many other risk management resource documents and past editions of *Claims Rx*, are available in the Risk Solutions area of [MyACCOUNT](#), or by policyholder request at 855-882-3412.

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