

# Patient Safety Alert: Failure to Rescue

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Failure to rescue patients from complications of an underlying illness or surgical treatment within the healthcare setting is a Patient Safety Indicator (PSI 04) of the Agency for Healthcare Research and Quality's Quality Indicators<sup>1</sup> list. These events which carry an increased potential for serious harm, appear to often be preceded by seemingly unrelated signals that clinicians may miss.

The Academic Medical Center Patient Safety Organization (AMC PSO) has observed a growing portion of its submissions to be related to insufficient patient monitoring and failure to rescue. To gain a better understanding of failure to rescue's causes and potential solutions, the AMC PSO assembled a panel of subject matter experts to review data, literature, and their own experiences with these types of events.

## Case-Type Review

Analyzed patient safety event data offered a representative view of the risks associated with failure to rescue. Within its deliberations, the AMC PSO focused first on assessing and aggregating failure to rescue contributing factors. These factors were grouped into two main categories: failure to recognize clinical deterioration and barriers to escalation.



### FAILURE TO RECOGNIZE CLINICAL DETERIORATION

Failure to rescue cases are typically regarded as preventable. However, clinicians may be presented with a varied or seemingly unrelated set of clinical deterioration signals, making for difficult diagnostic and treatment processes. Specific factors are listed in Table 1.

**TABLE 1**

- Pursuing a narrow diagnostic focus
- Overreliance on studies in place of physical assessment
- Lack of conveying sense of urgency in critical situations
- Variations in knowledge, skills, and willingness to escalate
- General clinical inexperience

### BARRIERS TO ESCALATION

Even if clinical deterioration is discovered promptly and it is known that the patient's care must be escalated up the chain of clinical command, there may be significant barriers to doing so (Table 2).

**TABLE 2**

- Missing or unclear escalation protocols
- Inability to identify the appropriate point of escalation
- Availability of senior residents and attending physicians

- Fear of negative response
- Insufficient tools and methods for communication

Ultimately, these two contributing factor domains can create an environment of unstructured teams and poor communication, resulting in delayed management of clinically deteriorating patients.

### NURSING FACTORS

Nurses are often considered the last line of defense, the “safety net” for patients. Research has shown that several

nursing factors also influence the ability to “rescue” patients from deteriorating conditions or complications. Aiken et al<sup>2</sup> (2003) established the connections between nurse staffing and education levels and failure to rescue in the adult surgical population. Researcher, Sean Clark, PhD, reinforces findings from earlier research and emphasizes the following: “the notion that patient safety hinges on close surveillance and well- chosen, well- executed responses to patient problems on the part of nurses and an interdisciplinary team crosses over nearly all clinical areas.”<sup>7</sup>

## Risk Mitigation Strategies

Events deriving from failures to rescue often involve complex systems that interweave people, culture, and technology. They can appear difficult to intervene upon during a first examination, but there are a number of strategies to reduce these risks (Table 3).

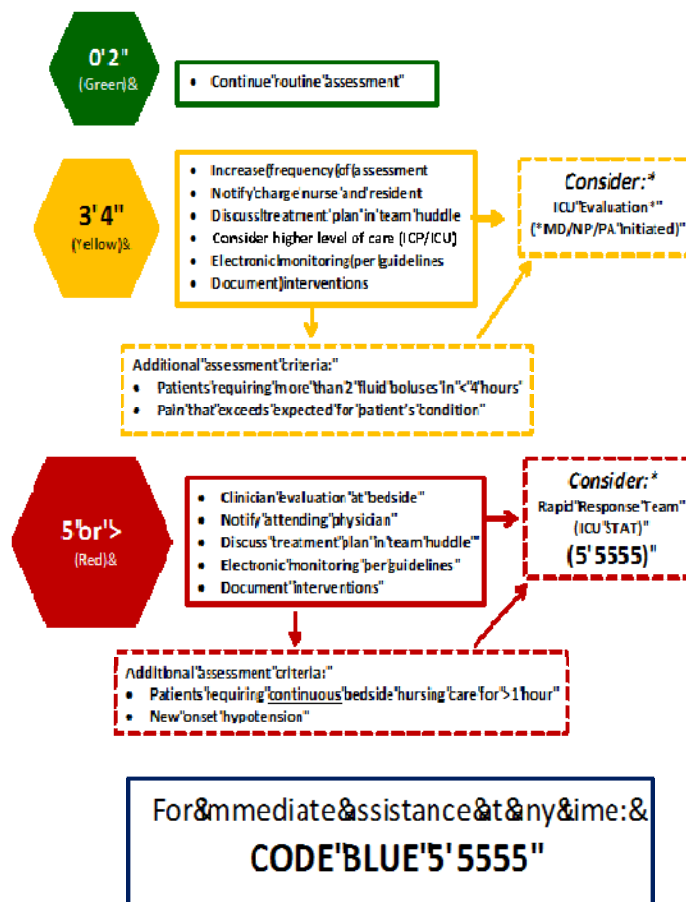
TABLE 3
<ul style="list-style-type: none"> <li>• Educating staff to read early clinical deterioration warning signs<sup>5</sup></li> </ul>
<ul style="list-style-type: none"> <li>• Simulation training focusing on communication, situational awareness, utilizing the chain of command, and debriefing (Joint Commission)</li> </ul>
<ul style="list-style-type: none"> <li>• Employing multidisciplinary M&amp;M rounds<sup>9</sup></li> </ul>
<ul style="list-style-type: none"> <li>• Creating safe environments, where clinicians fear no negative response to an escalation of a clinical deterioration event<sup>9</sup></li> </ul>
<ul style="list-style-type: none"> <li>• Creating systems for ongoing surveillance<sup>9</sup></li> </ul>
<ul style="list-style-type: none"> <li>• Structuring methods and means for communication</li> </ul>

### STRATEGY HIGHLIGHT 1: BOSTON CHILDREN'S HOSPITAL'S EARLY WARNING SCORE (CHEWS)

Knowing that pediatric cardiac arrests are usually preceded by clinical signs of respiratory insufficiency and shock, Boston Children’s Hospital (BCH) hypothesized that creating a pediatric evaluation method that is paired with communication protocols would reduce pediatric cardiac arrests.

BCH implemented the Children’s Hospital’s Early Warning Score (CHEWS), based on the work detailed in the Journal of Critical Care<sup>10</sup>, standardizing communication and escalation protocols.

Implementation of CHEWS has been associated with a significant decrease of inpatient cardiac and respiratory arrest rates, as well as an increase in requests for less urgent evaluations by the critical care team. The image (Kleinman) below is offered as an example of how communication and follow up may be standardized based on the score within an early warning score framework.



## STRATEGY HIGHLIGHT II: MEDICAL EARLY WARNING SCORE (MEWS) AT UF HEALTH

Similarly, the University of Florida health system, UF Health, introduced a formal Rapid Response Team system in 2007. This system, which employs the Medical Early Warning Score (MEWS) as a standard protocol, has been credited with reducing annual codes by over 60%. MEWS is standardized scoring system similar to that of CHEWS but one that has broader applicability to the adult inpatient population and has been supported by the Institute for Healthcare Improvements. Further information on UF Health's success with MEWS can be found here: <https://ufhealth.org/news/2012/continued-advances-patient-care>.

## STRATEGY HIGHLIGHT III: COMMUNICATION BREAKDOWNS IN INPATIENT SURGICAL CARE (ARRIAGA, ET AL)

As is seen in many failure to rescue cases, adverse events in the surgical setting can be precipitated by failure in communication among care providers. Studies have shown breakdowns due to insufficient resident-to-attending to communication. Arriaga et al<sup>4</sup> tested, with success, implementation of three communication standards across four academic medical centers. Standards including: 1) Daily resident-to-attending updates, 2) Daily attending-to-patient communication, and 3) Attending-to-attending communication, should occur at the point of any coverage sign-out. Using a reduced number of critical events not reported to attending physicians as a measure of success, this intervention demonstrated an increase of safety by reducing the percentage of non-communicated, critical events from 33% to 2%. Further information on the study can be found within the Arriaga<sup>ibid</sup> article – please see the References Section. Following, is an example image of a standardized communication policy for Surgery.

**Department of Surgery**

Expected communication practices for patients admitted to surgical services

1. For all critical changes in a patient's condition, the attending will be notified promptly (generally within 1 hour following evaluation). These include:

■ Admission to the hospital	■ changes (suspected CVA/ seizure/new onset paralysis)	■ First blood transfusion without prior attending knowledge or instruction (before or after operation)
■ Transfer to the ICU	■ Development of major wound complications (dehiscence, evisceration)	■ Development of any clinical problem requiring an invasive procedure or operation for treatment
■ Unplanned intubation or ventilatory support	■ Medication or treatment errors requiring clinical intervention (invasive procedure(s), increased monitoring, new medications except Narcan)	
■ Cardiac arrest		
■ Hemodynamic instability (including arrhythmias)		
■ Code		
■ Development of significant neurological		

*(continued on back)*

2. The following will be discussed with and approved by the attending before they occur:

- Discharge from the hospital or from the Emergency Department
- Transfer out of ICU

3. The attending should also be contacted if:

- Any trainee feels that a situation is more complicated than he or she can manage
- Nursing or physician staff, or the patient request that the attending surgeon be contacted

## Conclusion

Failure to rescue is a complex quality and safety issue. Its reduction as an adverse event depends upon integrated and structured patient evaluation and intra-team communication that transcends clinical practice levels and domains. Additionally, a clinical environment in which as many barriers to escalation and communication are removed as possible will empower clinicians to take intervening action earlier and more efficiently. The AMC PSO is hopeful that implementation of some of the above-mentioned strategies will be helpful toward reduction of failure to rescue cases.

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