

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/305628527>

“Let’s talk about it”: translating lessons from healthcare simulation to clinical event debriefings and clinical coaching conversations

Article in *Clinical Pediatric Emergency Medicine* · July 2016

DOI: 10.1016/j.cpem.2016.07.001

CITATIONS

15

READS

1,998

4 authors:



Walter Eppich

Northwestern University

86 PUBLICATIONS 2,164 CITATIONS

SEE PROFILE



Paul Mullan

Children's Hospital of the King's Daughters

53 PUBLICATIONS 289 CITATIONS

SEE PROFILE



Marisa Brett-Flegler

Harvard University

8 PUBLICATIONS 439 CITATIONS

SEE PROFILE



Adam Cheng

Alberta Children's Hospital, University of Calgary

165 PUBLICATIONS 3,264 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Global Health [View project](#)



Debriefing and Feedback in Healthcare [View project](#)

Abstract:

Despite proven benefits for team and individual performance, a number of perceived barriers limit clinical post-event debriefings, which impacts health care team functioning and patient care. An overemphasis on debriefing after rare events such as cardiac arrest and major trauma resuscitations necessarily means that debriefings will also occur infrequently as well. Similarly, individual coaching conversations that would help promote trainee skill acquisition are lacking. This situation stands in stark contrast to other experiential learning domains such as health care simulation, which view structured feedback, coaching, and debriefing as integral to its educational practices. Better translation of relevant lessons from health care simulation to clinical settings could enhance workplace learning and drive continuous performance improvements, benefitting both clinicians and patients. This article aims to: (a) broaden the scope of “debriefing” in clinical settings; (b) translate valuable principles and strategies from health care simulation, clinical education, and psychology literatures to clinical post-event debriefings and coaching conversations in pediatric emergency departments; and (c) offer guidance and practical strategies to help busy clinicians implement both clinical event debriefings and coaching conversations in pediatric emergency departments.

Keywords:

health care simulation; debriefing; feedback; coaching; microdebriefing; facilitation; clinical education; team; continuous performance improvement; clinical event debriefing; talk

“Let's Talk About It”: Translating Lessons From Health Care Simulation to Clinical Event Debriefings and Coaching Conversations

Walter J. Eppich, MD, MEd*,
Paul C. Mullan, MD, MPH†,
Marisa Brett-Fleegler, MD‡,
Adam Cheng, MD§

Despite proven benefits for team and individual performance,¹ debriefings that promote learning from clinical practice occur far too infrequently, which impacts health care team functioning and, thus, patient care. Failures to implement debriefing programs are common in busy environments such as emergency departments (EDs), where clinicians often think they do not have time or the skills to debrief, amidst other perceived barriers.^{2,3} This represents an obvious

*Division of Emergency Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL; †Children's Hospital of the King's Daughters, Eastern Virginia Medical School, Norfolk, VA; ‡Division of Emergency Medicine, Boston Children's Hospital, Harvard Medical School, Boston, MA; §Department of Pediatrics, Alberta Children's Hospital, University of Calgary, Calgary, Alberta, Canada.

Reprint requests and correspondence:
Walter J. Eppich, MD, MEd, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL 60611
w-eppich@northwestern.edu (W.J. Eppich),
changer@me.com (A. Cheng)

1522-8401

© 2016 Elsevier Inc. All rights reserved.

paradox given the relative infrequency of critical illness in childhood: pediatric ED teams in particular would stand to benefit from regular clinical debriefings. These barriers also factor into the dearth of performance feedback trainees report; this lack of individual coaching⁴ limits their clinical education. This situation stands in stark contrast to other experiential learning domains such as health care simulation, which view structured feedback, coaching, and debriefing as integral to their educational practices.^{5,6} Simulation-based training helps clinicians refine their individual and team-based clinical skills, particularly related to advanced life support.⁷⁻¹²

The term “debriefing” refers to interactive discussions or conversations after events to explore actions and thought processes, promote reflective learning, and identify strategies to improve future performance.^{9,13} The literature on clinical post-event debriefing emphasizes those discussions that occur *after* major clinical events,^{14,15} such as cardiac arrest, medical/trauma resuscitations, or invasive procedures.¹⁶⁻¹⁸ Although these traditional

debriefings are invaluable, practical challenges often get in the way of good intentions in actual practice. These include difficulties in convening key members of the treatment team, finding time and an appropriate setting to debrief, and lack of skilled facilitators; despite its perceived importance, 90% of surveyed pediatric ED providers in a Canadian study identified significant barriers to debriefing, notably time and ED workload.² Similarly, more than 90% of North American pediatric emergency medicine (PEM) fellows felt ill-prepared to debrief and desire more training.³ Unfortunately, structured post-event debriefings occur infrequently in most clinical settings despite their potential benefits for individual clinicians, health care teams, and patients.

Not only do clinicians hone their clinical skills by talking about and reflecting on their performance in debriefings, through regular participation in debriefings, however, they also *hone their ability to talk about and reflect on their performance and quality of patient care* after real clinical episodes.¹⁹ Better translation of relevant lessons from health care simulation to clinical settings could enhance workplace learning and drive continuous performance improvements, benefitting both clinicians and patients. In this article, we have three aims: (a) to broaden the scope of debriefing in clinical settings; (b) to translate valuable principles and strategies from health care simulation, clinical education, and psychology literature to supplement existing recommendations for clinical post-event debriefings and coaching conversations in pediatric EDs; and (c) to offer guidance and practical strategies to help busy clinicians implement both

clinical event debriefings and coaching conversations in pediatric EDs.

BROADENING THE SCOPE OF DEBRIEFING

Recent work in health care simulation has expanded our view about debriefings in four important ways. The first shift in thinking relates to “what” should trigger a debriefing. Although the clinical debriefing literature emphasizes resuscitations, cardiac arrests, patient death in the ED, and other major events,^{14,15} in simulation-based education, we recognize that many events are amenable to debriefing, even those with successful or less emotionally charged outcomes. Admittedly, debriefing critical incidents, particularly highly stressful and emotional ones related to failed resuscitations and death of a child,¹⁴ require adequate time and an appropriate setting, and may only take place days later due to logistical challenges. Because events of this scale are rare in the pediatric ED, so too are the accompanying debriefings. Much like in health care simulation for which debriefings are routine, we believe that engaging in clinical debriefings for both successful and challenging events, even if they are ad hoc and last only 5 to 10 minutes, is feasible, which recent work supports.¹⁶

The second issue relates to “who” facilitates the debriefing and the debriefer's role. Conventional wisdom in simulation stresses the importance of simulation “instructor” or “educator” training to prepare individuals to debrief; through formal courses and mentoring, debriefers acquire the values, artistry, and skills to moderate effective debriefings.²⁰ Although facilitator- or instructor-led

debriefings remain firmly rooted in simulation culture, emerging evidence supports the notion of self- or peer-led debriefing. Boet and colleagues^{21,22} demonstrated benefits of self- and within-team debriefings to enhance team and communication skills. Importantly, these studies recruited anesthesiology residents, who presumably had participated in facilitator-led debriefings before and were likely familiar with both purpose and process of debriefing. This point is relevant because prior experience with debriefing from a learner perspective may predict later success for peer-led debriefings. Given the lack of skilled debriefing facilitators, developing debriefing skills within clinical teams seems like an important prerequisite for improving workplace cultures that promote clinical event debriefing. These considerations have implications for clinical practice. For example, regular participation in post-event debriefings likely prepares clinicians to serve as “clinical coaches.”

The third change in how we conceptualize debriefing relates to “how” to debrief. Different schools of thought inform debriefing practice, from conceptualizations of debriefers as “instructors” who guide discussion, to “facilitators” who value learner-centered approaches,²³ to “coaches” who are more directive based on demonstrated learning needs.^{4,24} Classically, the implication of these various schools of thought shapes a philosophy toward preferred debriefing strategy, which in simulation influences faculty development.²⁵ Rather than strictly following one particular debriefing philosophy or strategy, several authors advocate for a blended approach to debriefing,^{26,27} highlighting an evolving view that there is “more than one way to debrief.”²⁸ This line of thinking emphasizes the role of context and performance domain in helping debriefers align strategy with intended outcomes.

Finally, orthodoxy is changing in terms of “when” debriefings should occur. Although conventional structured debriefings take place after simulation events, debriefings during events, or “microdebriefings” embedded in the activity or during brief pauses, represent powerful educational strategies themselves.^{8,29} Rather than allowing a simulation to unfold completely before debriefing, microdebriefings occur during ongoing action or pauses in the action to focus on targeted aspects of performance, such as quality of basic or advanced life support, clinical decision-making, procedural skills, or teamwork.²⁹ After microdebriefings, action continues, resuming from that point in time, or “rewinding” to allow learners to re-do key skills or manage critical aspects of a simulated case. We now explore the

concept of microdebriefings applied to clinical practice in the pediatric ED.

MICRODEBRIEFINGS AND CLINICAL COACHING CONVERSATIONS

Microdebriefings during simulation-based learning foster deliberate practice that leads to performance improvement. A correlate for microdebriefings in clinical settings are coaching conversations, which may occur ad hoc throughout a clinical shift as the need arises or deliberately, such as at the end of a shift.⁴ As such, some features of clinical coaching conversations overlap with both forms of debriefing in terms of process and timing (during/after an event). See [Table 1](#) for definitions of key terms; [Table 2](#) highlights essential characteristics of health care simulation debriefing.

Depending on context, debriefing conversations may also integrate critical performance feedback⁶ to promote reflection and learning, which applies to both simulated and actual clinical environments. Directive feedback³⁰ catalyzes learning and performance improvement; evidence-based guidelines promote its effectiveness for clinical education.³¹ Educators increasingly recognize the impact of learning culture and relationships on how learners receive and process feedback.^{32,33} Recent work about facilitated feedback³⁴ and coaching conversations⁴ supports many principles central to health care debriefing and the differing roles educators assume.³⁵ Emerging models frame the relationship between clinical supervisors and trainees as a coach-learner dyad.^{24,34} This relationship forms the basis for coaching environments in which doctor-coaches break down key clinical skills based on established performance standards and elicit learners' self-assessment during coaching conversations. In this coaching relationship, coaches purposefully observe and assess learners' performance, promote reflection, provide directive feedback, set goals, and facilitate additional practice.^{4,24}

TRANSLATING PRINCIPLES OF SIMULATION DEBRIEFING TO CLINICAL CONTEXTS

A growing body of literature highlights the role of these conversational forms in clinical practice; lessons from health care simulation may serve to strengthen them and, hopefully, their impact. [Table 3](#) illustrates the translation of key principles of health care simulation debriefing to clinical contexts.

TABLE 1. Definition of key terms.

Key Term	Definition
Debriefing	Interactive discussion to reflect on actions, emotions, and thought process after simulated or clinical events with the goal of improving future performance
Feedback	Information about the performance compared to a standard; part of “directive feedback”
Microdebriefing	Brief, focused discussion during a simulated event to address a targeted performance issue; may occur in a pause in the activity; may include directive feedback
Debriefers/facilitator	Person(s) facilitating the debriefing; with or without clinical background; may or may not have been part of the team; attends to debriefing process
Learner	Debriefing participants, irrespective of training level or experience level, ie, everyone is a “learner”
Coach	Clinical supervisor; has domain expertise compared with trainee
Coaching conversations	A clinical correlate of simulation-based microdebriefings; a dialogue embedded during/after clinical shifts or during/after patient care episodes; occur between a clinical supervisor (coach) and a trainee (eg, attending physician and fellow or resident); includes components of the analysis phase of clinical post-event debriefings
Coaching	Incorporates the coach's own observations and perspectives on specific matters; may involve confirming or challenging learners' self-assessment of their own performance by providing effective feedback and focused teaching; more directive
Performance domain	Cognitive: knowledge-related; clinical decision-making Technical or psychomotor skills: performing procedures, manual maneuvers Behavioral: team skills, communication Affective: attitudes

A brief vignette illustrates these notions about debriefing applied in ED settings:

At the beginning of a clinical shift, a junior PEM fellow responds to a query by her supervising attending that if a critically ill patient presents during the shift, she would like to focus on leading the team rather than other hands-on activities [goal setting]. Subsequently, the ED team resuscitates a critically ill infant with fluid-refractory shock. The PEM fellow leads the ED team with attending support; during patient care, the attending allows the PEM fellow to make initial management decisions, prompts brief reflection about clinical decision-making and leadership as needed to keep the team and patient care on track, and offers any immediate feedback required to ensure patient safety [clinical coaching conversation]. After patient transfer to intensive care, the ED charge nurse facilitates a 10-minute debriefing with the team [clinical post-event debriefing]. In addition, the PEM attending and fellow subsequently spend a few minutes discussing particular aspects of the PEM fellow's clinical decision-making, leadership, etc., as well as how to care for a critically-ill patient without losing sight of other potentially sick patients in an otherwise busy ED [clinical coaching conversation].



Debriefings and clinical coaching conversations all share interactional and social elements and represent examples of “talk” with learning as an explicit goal. Talk is a core activity that serves patient care through information exchange, relationship building, and teamwork across disciplinary and professional boundaries; talk is also essential for learning.¹⁹ Indeed, “learning to talk” illustrates the shift in modern societies in which talk has become one of the main components of the work,^{36,37} which is particularly relevant in medicine. Unfortunately, talk potentially amplifies less favorable social structures such as authority gradients and power differentials.³⁸ The highly social nature of these learning conversations demands establishing supportive learning environments as an absolute prerequisite.³⁹ Supportive learning environments enable frank and open debriefing conversations, irrespective of context. Psychological safety, or a belief that questions, ideas, concerns, or mistakes can be raised without worry of blaming or shaming,^{39,40} helps learners to take risk, accept challenges,⁴¹ and contribute their ideas in a shared enterprise.⁴² Steps to encourage psychological safety, mutual respect, and trust have been outlined elsewhere^{39,43} and are particularly relevant in health care.⁴⁴

FACILITATING CLINICAL EVENT DEBRIEFINGS

Although many approaches to health care simulation debriefing exist, several common themes cut across these options. Effective debriefings have some

TABLE 2. Principles of health care simulation debriefing.

	Within-Event Microdebriefing During Simulations	Post-Event Debriefing After Simulations
Simulation context	<i>Interruption</i> in action (ie, “pause and discuss”, “pause and rewind”)	<i>After-action</i> , or post-event debriefing after a simulated event, eg, team training event, resuscitation training, focused on care of one patient, or contemporaneous care of several patients
Timing	Concurrent (ie, during) Future-oriented > past-oriented	Terminal (ie, after) Past-oriented = future-oriented
Main goal	Optimize immediate future performance	Focus on delivered care to optimize future patient care
Process	Brief, focused facilitation Focused directive feedback	Structured discussion, including specific phases: Reactions Description Analysis (blended approach depending on situation) Learner self-assessment (eg, plus-delta) Focused facilitation Directive feedback Summary of take-home messages
Educator role	Coach >> facilitator	Facilitator >> coach
Target learner	Individual = teams	Teams >> individual
Rationale	Enhance deliberate practice >> reflective practice	Promote reflective learning
Focus	One or few targeted aspects of performance Taskwork: eg, medical decision-making; procedural skills Teamwork: eg, leadership, role clarity, communication	Multiple aspects of performance Taskwork: eg, medical decision-making; procedure skills Teamwork: eg, leadership, role clarity, communication System issues
Examples	For example, effective basic and advanced life support; coordinating the team to put back board under patient while minimizing interruptions in chest compressions	For example, systematic trauma team assessment and management of a patient in hypovolemic shock
Main outcome	Improved taskwork or teamwork in very targeted areas related to case objectives and in response to demonstrated performance	Improved global performance and reflective learning about taskwork and teamwork related to case learning objectives and emergent issues

degree of structure and integrate several possible educational strategies.^{1,5} Most expert educators avoid adhering rigidly to a particular strategy; rather, they merge two or more approaches depending on their expertise, context, time available, and specific debriefing goals. Eppich and Cheng²⁶ described a blended debriefing approach (Promoting Excellence and Reflective Learning in Simulation, or PEARLS) and outlined three broad categories of available educational strategies within a typical debriefing structure based on existing models.^{5,6,45,46} Figure 1 summarizes the PEARLS blended debriefing approach and these educational strategies adapted for clinical post-event debriefings and coaching conversations. Because use of debriefing scripts promotes improved performance in pediatric resuscitations,^{47,48} Figure 1 offers facilitators possible scripted language and guidance depending on situational factors, such as available time and debriefing focus. In addition, Figure 1 highlights core elements of clinical coaching conversations. This debriefing structure and script is adaptable; it offers

guidance if more time is available and emphasizes elements on which to focus in time-limited settings, informed by recent recommendations in the clinical event debriefing literature.^{16-18,49,50} This debriefing tool would also be well suited for in situ simulations in the ED; following similar debriefing formats after both in situ simulations and clinical events may represent a strategy to foster nascent debriefing programs. What follows is a step by step explanation of the debriefing process as outlined in Figure 1.

Setting the Stage

At the outset of a debriefing, a statement of purpose creates shared understanding about why the discussion is happening, *namely to help teams work together and care for patients even better*. A brief round of introductions of name and role helps get the discussion going in a low-risk manner. Reinforce issues of confidentiality to ensure that any comments are not shared out of context; explicitly seek agreement. Especially for debriefings that occur on shift, set an estimated

TABLE 3. Principles of health care simulation debriefing applied to clinical contexts.

	Clinical Coaching Conversations ^a	Clinical Post-Event Debriefing
Clinical context	Ad hoc <i>during natural pauses</i> in patient care (ie, trauma patient in CT scan) Ad hoc <i>during</i> patient care or <i>after</i> patient care-related task	<i>After-action</i> , or post-event debriefing after a major patient care episode, eg, resuscitation, major trauma After-action review at the end of a clinical shift
Timing	Primarily concurrent and future-oriented	Terminal Past-oriented = future-oriented
Main goal	Optimize immediate and future performance	Focus on delivered care to optimize future patient care
Process	Brief focused facilitation Focused directive feedback	Structured discussion, including specific phases: <ul style="list-style-type: none"> · Setting the scene^b · Reactions · Description · Analysis (<i>learner self-assessment</i>^b > focused facilitation) · Summary of take-home messages
Clinician educator role (MD, RN)	Coach >> facilitator	Facilitator >> coach
Target learner	Individuals >> team	Team >> individual
Rationale	Ensure safe, effective immediate patient care >> learning Patient-centered = learner-centered	Learning = future safe, effective patient care Promote shared understanding, reflective learning Patient- and system-centered > learner-centered
Focus	One or few targeted aspects of performance Taskwork: eg, medical decision-making; presentation skills, procedural skills, flow, efficiency Teamwork: eg, leadership, role clarity, communication	Multiple aspects of performance Taskwork: eg, medical decision-making; procedural skills Teamwork: eg, leadership, role clarity, communication
Examples	Clinician educator stands behind team leader <i>during</i> active resuscitation or during a key procedural skill, providing scaffolding and learning cues as needed Clinical educator discusses aspects of care with a fellow or resident, eg, <ul style="list-style-type: none"> · Oral case presentation · Telephone consult with fellow/resident · Clinical decision-making · Managing flow 	System issues, eg, interface with other clinical units Team debriefing after acute event, eg, trauma resuscitation, care of medically complex patients Team debrief after stressful events, eg, agitated psychiatric patient requiring chemical and/or physical restraints Team debrief at the end of shift to discuss system issues (eg, flow, through-put, actual vs desired staffing) PEM attending and fellow debrief at end of shift (may represent a coaching conversation with learner self-assessment = focused facilitation = directive feedback)
Main outcome	Improved taskwork or teamwork in very targeted areas related to ongoing management and in response to immediate patient safety and care needs	Improved global performance and reflective learning about taskwork and teamwork related to care provided Improved individual or team performance Identify systems issues

^a Some overlap between clinical coaching conversations and clinical event debriefing exists in terms of timing and process, and clinical coaching conversations between clinical supervisors and trainees, and may occur during or after clinical events.

^b Indicates priorities if time is limited.

timeframe for debriefing so everyone can anticipate when they will be able to return to patient care.

Reactions Phase

This phase begins with an open-ended question “Any initial reactions?” to allow learners to vent and express initial thoughts.^{6,26} Depending on group size and time available, a follow-up question such as “Other initial reactions?” followed by silence often prompts additional reactions. *This step in the debriefing is particularly important for emotionally laden clinical events,*

especially if the team is convening for the express purpose of debriefing. For quick clinical debriefings on shifts without strong emotional reactions but with limited available time, consider keeping this very brief by asking learners to sum up their initial reactions in a word or two, or eliminating it altogether to save time.

Description Phase

It can be helpful to invite someone to summarize his/her perspective of key clinical events or major

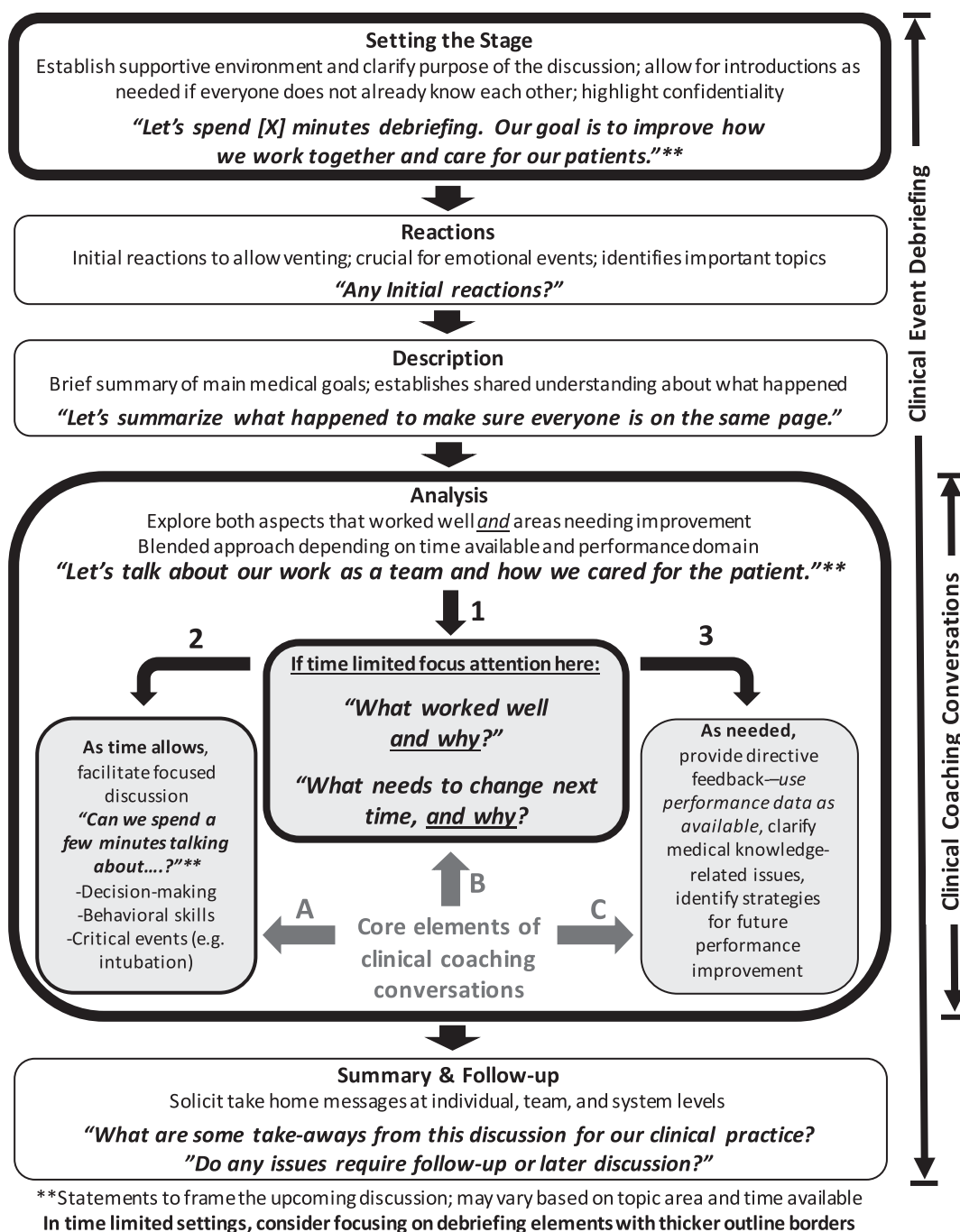


Figure 1. PEARLS approach to clinical debriefing and coaching conversations.

issues faced to make sure that everyone is on the same page about what happened.^{18,26,45} If a team leader is facilitating the debriefing, he/she can provide a brief summary. This step is especially important in instances of unclear diagnoses or when clinical management did not have intended effects. Avoid a time-consuming and inefficient recounting of everything that happened; focus this step on main issues. These main issues could revolve around

clinical management, interactions with consulting teams, teamwork, systems issues, and so on, which then lead into the analysis phase of the debriefing.

Analysis Phase

The analysis phase encompasses the lion's share of the debriefing. This step necessarily takes up the most time and explores aspects of performance that

worked well and should continue going forward, and those aspects needing improvement. In time-limited settings, debriefers can set boundaries around the discussion of “what worked well, what needs improving” by keeping the team focused on main clinical objectives. Eppich and Cheng²⁶ outlined three broad categories of educational strategies during the analysis phase in their blended debriefing approach: (a) learner self-assessment, (b) focused facilitation to promote deeper understanding of specific events or aspects of performance with an eye toward future improvement, and (c) providing directive performance feedback or teaching. Each category of commonly used approaches has its own potential advantages and disadvantages in the context of health care debriefing,²⁶ many of which apply for clinical event debriefing as well; see Table 4 for a description and summary of these strategies. The choice of strategy and the degree to which debriefers intermingle these within a single debriefing depend on the level of clinical experience of debriefing participants, time available, and main objectives. For example, more junior learners may require more directive feedback and teaching; a similar focus on directive feedback for highly experienced teams may prove ineffective. Here, emphasize learner self-assessment strategies and focused facilitation around key topic areas.

For clinical event debriefings during or after an ED shift when time may be limited, debriefers should focus primarily on learner self-assessment strategies (see Figure 1, analysis box, number 1). Figure 1 reflects this relative weighting of importance through a prominent border around that element. Multiple questioning techniques promote learner self-assessment: (a) what they think went well and what they would change using a plus/delta technique,^{5,26} (b) what went well/not so well and why (eg, SHARP technique),⁵¹ or (c) what aspects of patient management were “easy” vs “challenging.”⁵² Mullan and colleagues¹⁶ implemented a qualitative debriefing tool in their pediatric ED and demonstrated the feasibility of this approach. If team leaders of clinical events facilitate the debriefing (eg, attending physician or fellow), anecdotal experience supports that these leaders highlight at the outset what aspects of their own performance they wished would have gone differently and what they would change, a technique termed “inside-outside criticism.”⁵³ Genuine displays of fallibility contribute significantly to a safe, supportive environment that promotes frank discussion.³⁹

Through learner self-assessment, multiple important issues may surface in a short period. Avoid overly negative discussions and those that gloss over areas

needing improvement; seek a balanced dialogue. Depending on the available time and the relative importance of a particular issue, a debriefer may facilitate a focused discussion around that topic by highlighting it: “Can we spend a few minutes talking about XYZ”? (see Figure 1, analysis box, number 2) The goal is to trigger more in-depth discussion about a particular topic, make it acceptable to explore differences in opinion in a respectful manner,⁵⁰ which can promote rich dialogue. High-level groups, particularly those familiar with debriefing processes, may require little if any guidance and debrief themselves.⁵⁴ See Eppich and Cheng²⁶ and Kolbe et al²⁷ for comprehensive overviews of advanced focused facilitation strategies, including conversational techniques to explore specific performance issues in an honest, yet non-threatening manner. In most instances, however, the debriefing will involve: (a) setting the stage, to include a framing statement to establish shared purpose and getting agreement about timing, and (b) inviting input and discussion.

Directive feedback may also be appropriate depending on the issues. Patient-focused performance data can be particularly helpful if available; integrating data about the quality of basic and advanced life support measures impacts patient outcomes.⁵⁵⁻⁵⁷ Of course, potentially sensitive matters might be best addressed in one-on-one conversation after the debriefing. When team members are unclear about specific medical knowledge-related issues, more experienced members can provide necessary background information, especially valuable for interprofessional learning (see Figure 1, analysis box, number 3).

Summary Phase

Learners are invited to share their main take-home message(s) for their clinical practice; these points may relate to their own practice, how the team functions, or ED/hospital systems. For clinical event debriefings, a predefined system should be in place to document items for follow-up, who will follow them up, and if any issues require additional discussion at later point in time.

CLINICAL COACHING CONVERSATIONS

The analysis box in Figure 1 contains key elements for clinical coaching conversations (items labeled A, B, and C). For example, in the clinical vignette described above, the PEM fellow set a goal of improving her leadership during resuscitations. Using elements of clinical coaching

TABLE 4. Three broad categories of educational strategies used during clinical coaching conversations and clinical post-event debriefings.^a

Strategy ^a	Description	Examples/Key Elements	Key Considerations
Learner self-assessment	- Ask learners to self-assess their own performance by asking them what they think	- Plus-Delta (+/) · What they did well (Plus) · What they would do differently (Delta) - SHARP technique · What worked well <i>and why</i> ? · What needs to change <i>and why</i> ? - What was easy, what was challenging?	- Time-efficient strategy for post-event debriefings, microdebriefings, coaching conversations - Learner-centered, identifies issues important to learners - Promotes self-reflection
Focused facilitation	- Facilitate a discussion to probe deeper on key aspects of performance (eg, taskwork, teamwork)	- State the topic of the conversations, e.g. · "Let's talk about our teamwork" · "Let's talk about the interactions with the trauma team" · "Let's talk about the challenges of airway management in this patient" - If time permits, share specific observations, including a rationale for why this is important, and <i>solicit learner perspectives</i> - Consider speaking from a first person perspective to "own" your opinion, so called "I -messages": · "I noticed..." "I heard you say to the mom..." · "What went through my mind at that moment was..." "My worry is..." · "That concerns me because..." · "I am curious to hear how you see that...?" · "I am wondering what you were trying to accomplish..." - Speaking from a first person perspective is especially useful during coaching conversations.	- Encourage specificity - Encourage balance of plus and delta - Time-efficient if focused on specific issues - Allows for probing of particular topics raised by learner(s) - May trigger time-consuming discussion about one topic to the exclusion of other topics
Directive feedback and/or teaching	- Give directive feedback based on individual or team actions/inactions; include rationale - Teach to close clear knowledge gaps as they emerge	- Share specific observations, rationale for why this is important, eg, "this is important because..." - Share suggestions for what to continue doing in the future or strategies to improve - See also comments about speaking from the first person perspective above	- Educator or coach shares own perspective - Beware: directive feedback may come across harshly depending on delivery, especially in front of a group; may require genuine exploration of learners' perspective first, ie, their thought process

^a May blend educational strategies based on performance domain, setting, and available time. SHARP: Set learning objectives, How did it go, Address concerns, Reflect on key learning points, Plan ahead.

conversations, the attending-as-coach might approach the PEM fellow as follows:

A. "Can we spending a few minutes talking about your leadership of the team? [framing statement about the purpose of the coaching conversation] You had mentioned that you are working on that. Is this a good time? Any

initial thoughts related to XXX?" [Setting the stage—getting agreement about timing—inviting input and discussion]

B. "What worked well for you, and what would you change next time, and why" or "What aspects were easy, which ones were challenging for you?" [learner self-assessment]

C. Depending on the discussion, the attending may provide directive feedback in an honest yet non-threatening manner: “I saw you do [insert specific observation here], might I suggest that you try [insert suggested change in behavior here] next time, because of [insert rationale for change here]”. Coaches can then help the PEM fellow identify strategies for improvement for going forward, focusing on what the PEM fellow feels is achievable.³⁴ “What are you going to work on next time?”

Although prone to inaccuracy,^{58,59} learner self-assessment approaches identify areas that learners find important, thus guiding the discussion. In providing guidelines for clinical feedback conversations, Lefroy and colleagues³¹ highlight that by incorporating their own observations and perspectives on specific matters, educators-as-coaches confirm or challenge learners' self-assessment, thus helping them improve.

In particular, the goal of the conversation may be first to uncover what thought processes drove learner actions/inactions.⁴⁶ Once learners' thoughts, or mental models, are on the table, coaches, and learners can work together to reframe their thinking and encourage effective strategies.^{4,6} Then, directive feedback or focused teaching aligned to learners' thought processes can promote receptivity and uptake.

DISCUSSION

Prior literature has mostly treated simulation and clinical debriefing as two distinct entities. Although the context differs, many similarities in process exist. Of course, the experiences that lead into the debriefings are inherently different. Most simulation scenarios run less than 15 minutes, with debriefings generally lasting longer than the simulation event. Patient care encounters, on the other hand, by their nature last longer; a critically ill trauma patients or medically complex patient may encompass an hour or more of direct critical care time before stabilization and transfer to intensive care. In busy clinical environments, ad hoc debriefings during clinical shifts rarely exceed 15 minutes.

We argue here, however, that these debriefing contexts are complementary. Although each form has its own purpose and unique goals, they share similar process elements as well as intended outcomes. At a meta-level, both simulation-based and clinical event debriefings present opportuni-

ties to reflect on experiences that potentially promote meaningful learning; clinical coaching conversations also fall into this same category. Clinical event debriefing must naturally be more patient-focused and learner-centered²³ as opposed to instructor-centered, especially when the person moderating the debriefing was an active participant in patient care. Clinical coaching conversations tend toward instructor-centeredness due to inherent power differentials between clinical supervisors and learners—even in trusting coaching relationships.

A broadened view of debriefing and coaching helps overcome practical obstacles. Programs seeking to enhance clinical post-event debriefings should integrate unit-based simulations whenever possible. Learning to debrief after simulations likely fosters debriefing during clinical practice; rather than being a unique event, debriefings become “part of how we do things here,” as in other high-risk domains.⁵³ Clinicians who participate in regular structured facilitator-led debriefings, whether in simulation or after clinical events, become accustomed to reflecting on performance and giving/receiving feedback, all in the service of improved patient care. We also predict that foundational experiences in structured debriefing would translate into effective peer-led debriefings within clinical teams. Similarly, by becoming versed in the talk of debriefing, we expect that clinical supervisors would also enhance their ability to facilitate coaching conversations. By translating lessons from simulation-based debriefing to debriefing teams and coaching individuals in clinical environments, we will build a workplace culture that supports the talk of learning, fosters continuous performance improvement, and enhances patient outcomes.

SUMMARY

Instead of advocating for debriefings only after major resuscitations, we argue for a broadened view of debriefing in clinical settings to also include brief and focused discussions *during* and *after* both routine and nonroutine events. Valuable principles and strategies from health care simulation can inform clinical post-event debriefings among teams and coaching conversations between trainees and supervisors. Regular debriefings and coaching conversations, both in simulation and embedded in clinical practice, will contribute to a supportive workplace culture that values the talk of learning, fosters improved performance, and benefits patients. We hope these practical strategies will help busy clinicians make this vision a reality.

REFERENCES

1. Tannenbaum SI, Cerasoli CP. Do team and individual debriefs enhance performance? A meta-analysis. *Hum Factors* 2013;55:231-45, <http://dx.doi.org/10.1177/0018720812448394>.
2. Sandhu N, Eppich W, Mikrogianakis A, et al. Postresuscitation debriefing in the pediatric emergency department: a national needs assessment. *CJEM* 2014;16:383-92, <http://dx.doi.org/10.2310/8000.2013.131136>.
3. Zinns LE, O'Connell KJ, Mullan PC, et al. National survey of pediatric emergency medicine fellows on debriefing after medical resuscitations. *Pediatr Emerg Care* 2015;31:551-4, <http://dx.doi.org/10.1097/PEC.0000000000000196>.
4. Leblanc C, Sherbino J. Coaching in emergency medicine. *CJEM* 2010;12:520-4.
5. Fanning RM, Gaba DM. The role of debriefing in simulation-based learning. *Simul Healthc* 2007;2:115-25, <http://dx.doi.org/10.1097/SIH.0b013e3180315539>.
6. Rudolph JW, Simon R, Raemer DB, Eppich WJ. Debriefing as formative assessment: closing performance gaps in medical education. *Acad Emerg Med* 2008;15:1010-6, <http://dx.doi.org/10.1111/j.1553-2712.2008.00248.x>.
7. Wayne DB, Siddall VJ, Butter J, et al. A longitudinal study of internal medicine residents' retention of advanced cardiac life support skills. *Acad Med* 2006;81:S9-12.
8. Hunt EA, Duval-Arnould JM, Nelson-McMillan KL, et al. Pediatric resident resuscitation skills improve after "rapid cycle deliberate practice" training. *Resuscitation* 2014;85:945-51, <http://dx.doi.org/10.1016/j.resuscitation.2014.02.025>.
9. Cheng A, Eppich W, Grant V, et al. Debriefing for technology-enhanced simulation: a systematic review and meta-analysis. *Med Educ* 2014;48:657-66, <http://dx.doi.org/10.1111/medu.12432>.
10. Cheng A, Lang TR, Starr SR, et al. Technology-enhanced simulation and pediatric education: a meta-analysis. *Pediatrics* 2014;133:e1313-23, <http://dx.doi.org/10.1542/peds.2013-2139>.
11. Cheng A, Lockey A, Bhanji F, et al. The use of high-fidelity manikins for advanced life support training—a systematic review and meta-analysis. *Resuscitation* 2015;93:142-9, <http://dx.doi.org/10.1016/j.resuscitation.2015.04.004>.
12. Bhanji F, Donoghue AJ, Wolff MS, et al. Part 14: education: 2015 American Heart Association guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care. *Circulation* 2015;132:S561-73, <http://dx.doi.org/10.1161/CIR.0000000000000268>.
13. Raemer D, Anderson M, Cheng A, et al. Research regarding debriefing as part of the learning process. *Simul Healthc* 2011;6:S52-7, <http://dx.doi.org/10.1097/SIH.0b013e31822724d0>.
14. Ireland S, Gilchrist J, Maconochie I. Debriefing after failed paediatric resuscitation: a survey of current UK practice. *Emerg Med J* 2008;25(6):328-30.
15. Theophilos T, Magyar J, Babl FE. Debriefing critical incidents in the paediatric emergency department: current practice and perceived needs in Australia and New Zealand. *Emerg Med Australas* 2009;21:479-83, <http://dx.doi.org/10.1111/j.1742-6723.2009.01231.x>.
16. Mullan PC, Wuestner E, Kerr TD, et al. Implementation of an in situ qualitative debriefing tool for resuscitations. *Resuscitation* 2013;84:946-51, <http://dx.doi.org/10.1016/j.resuscitation.2012.12.005>.
17. Kessler DO, Cheng A, Mullan PC. Debriefing in the emergency department after clinical events: a practical guide. *Ann Emerg Med* 2015;65:690-8, <http://dx.doi.org/10.1016/j.annemergmed.2014.10.019>.
18. Sawyer T, Loren D, Halamek LP. Post-event debriefings during neonatal care: why are we not doing them, and how can we start? *J Perinatol* 2016;36:415-9, <http://dx.doi.org/10.1038/jp.2016.42>.
19. Eppich W, Rethans J-J, Teunissen PW, Dornan T. Learning to work together through talk: continuing professional development in medicine. In: Billett S, Dymock D, Choy S, editors. *Supporting learning across working life*. Switzerland: Springer Publishing International; 2016. p. 47-73, http://dx.doi.org/10.1007/978-3-319-29019-5_3.
20. Krogh K, Bearman M, Nestel D. "Thinking on your feet"—a qualitative study of debriefing practice. *Adv Simul* 2016;1:12, <http://dx.doi.org/10.1186/s41077-016-0011-4>.
21. Boet S, Bould MD, Bruppacher HR, et al. Looking in the mirror: self-debriefing versus instructor debriefing for simulated crises. *Crit Care Med* 2011;39:1377-81, <http://dx.doi.org/10.1097/CCM.0b013e31820eb8be>.
22. Boet S, Bould MD, Sharma B, et al. Within-team debriefing versus instructor-led debriefing for simulation-based education: a randomized controlled trial. *Ann Surg* 2013;258:53-8, <http://dx.doi.org/10.1097/SLA.0b013e31829659e4>.
23. Cheng A, Morse KJ, Rudolph J, et al. Learner-centered debriefing for health care simulation education: lessons for faculty development. *Simul Healthc* 2016;11:32-40, <http://dx.doi.org/10.1097/SIH.0000000000000136>.
24. Gifford KA, Fall LH. Doctor coach: a deliberate practice approach to teaching and learning clinical skills. *Acad Med* 2014;89:272-6, <http://dx.doi.org/10.1097/ACM.0000000000000097>.
25. Cheng A, Grant V, Dieckmann P, et al. Faculty development for simulation programs: five issues for the future of debriefing training. *Simul Healthc* 2015;10:217-22, <http://dx.doi.org/10.1097/SIH.0000000000000090>.
26. Eppich W, Cheng A. Promoting Excellence and Reflective Learning in Simulation (PEARLS): development and rationale for a blended approach to health care simulation debriefing. *Simul Healthc* 2015;10:106-15, <http://dx.doi.org/10.1097/SIH.0000000000000072>.
27. Kolbe M, Weiss M, Grote G, et al. TeamGAINS: a tool for structured debriefings for simulation-based team trainings. *BMJ Qual Saf* 2013;22:541-53, <http://dx.doi.org/10.1136/bmjqs-2012-000917>.
28. Sawyer T, Eppich W, Brett-Fleegler M, et al. More than one way to debrief: a critical review of healthcare simulation debriefing methods. *Simul Healthc* 2016;11:209-17, <http://dx.doi.org/10.1097/SIH.0000000000000148>.
29. Eppich WJ, Hunt EA, Duval-Arnould JM, et al. Structuring feedback and debriefing to achieve mastery learning goals. *Acad Med* 2015;90:1501-8, <http://dx.doi.org/10.1097/ACM.0000000000000934>.
30. Archer JC. State of the science in health professional education: effective feedback. *Med Educ* 2010;44:101-8, <http://dx.doi.org/10.1111/j.1365-2923.2009.03546.x>.
31. Lefroy J, Watling C, Teunissen PW, Brand P. Guidelines: the do's, don'ts and don't knows of feedback for clinical education. *Perspect Med Educ* 2015;4:284-99, <http://dx.doi.org/10.1007/s40037-015-0231-7>.
32. Kraut A, Yarris LM, Sargeant J. Feedback: cultivating a positive culture. *J Grad Med Educ* 2015;7:262-4, <http://dx.doi.org/10.4300/JGME-D-15-00103.1>.
33. Watling C. When I say ... learning culture. *Med Educ* 2015;49:556-7, <http://dx.doi.org/10.1111/medu.12657>.
34. Sargeant J, Lockyer J, Mann K, et al. facilitated reflective performance feedback: developing an evidence- and theory-based model that builds relationship, explores reactions and content, and coaches for performance change

- (R2C2). *Acad Med* 2015;90:1698-706, <http://dx.doi.org/10.1097/ACM.0000000000000809>.
35. Dieckmann P, Molin Friis S, Lippert A, Østergaard D. The art and science of debriefing in simulation: ideal and practice. *Med Teach* 2009;31:e287-94, <http://dx.doi.org/10.1080/01421590902866218>.
 36. Scheeres H. Learning to talk: from manual work to discourse work as self-regulating practice. *J Work Learn* 2003;15:332-7, <http://dx.doi.org/10.1108/13665620310504819>.
 37. Iedema R, Scheeres H. From doing work to talking work: renegotiating knowing, doing, and identity. *Appl Linguist* 2003;24:316-37.
 38. Cosby KS, Croskerry P. Profiles in patient safety: authority gradients in medical error. *Acad Emerg Med* 2004;11:1341-5, <http://dx.doi.org/10.1197/j.aem.2004.07.005>.
 39. Edmondson AC. Teaming: how organizations learn, innovate, and compete in the knowledge economy. San Francisco, CA: John Wiley & Sons, Inc; 2012.
 40. Edmondson A. Psychological safety and learning behavior in work teams. *Adm Sci Q* 1999;350-83.
 41. Edmondson AC. The competitive imperative of learning. *Harv Bus Rev* 2008;86:60-7.
 42. Edmondson AC, Lei Z. Psychological safety: the history, renaissance, and future of an interpersonal construct. *Annu Rev Organ Psychol Organ Behav* 2014;1:23-43, <http://dx.doi.org/10.1146/annurev-orgpsych-031413-091305>.
 43. Rudolph JW, Raemer DB, Simon R. Establishing a safe container for learning in simulation: the role of the presimulation briefing. *Simul Healthc* 2014;9:339-49, <http://dx.doi.org/10.1097/SIH.0000000000000047>.
 44. Edmondson AC, Higgins M, Singer S, Weiner J. Understanding psychological safety in health care and education organizations: a comparative perspective. *Res Hum Dev* 2016;13:65-83, <http://dx.doi.org/10.1080/15427609.2016.1141280>.
 45. Steinwachs B. How to facilitate a debriefing. *Simul Gaming* 1992;23:186-95.
 46. Rudolph JW, Simon R, Dufresne RL, Raemer DB. There's no such thing as 'nonjudgmental' debriefing: a theory and method for debriefing with good judgment. *Simul Healthc* 2006;1:49-55.
 47. Cheng A, Hunt EA, Donoghue A, et al. Examining pediatric resuscitation education using simulation and scripted debriefing: a multicenter randomized trial. *JAMA Pediatr* 2013;167:528-36, <http://dx.doi.org/10.1001/jamapediatrics.2013.1389>.
 48. Cheng A, Rodgers DL, van der Jagt É, Eppich W. Evolution of the Pediatric Advanced Life Support course: enhanced learning with a new debriefing tool and web-based module for Pediatric Advanced Life Support instructors. *Pediatr Crit Care Med* 2012, <http://dx.doi.org/10.1097/PCC.0b013e3182417709>.
 49. Mullan PC, Kessler DO, Cheng A. Educational opportunities with postevent debriefing. *JAMA* 2014;312:2333-4, <http://dx.doi.org/10.1001/jama.2014.15741>.
 50. Lyons R, Lazzara EH, Benishek LE, et al. Enhancing the effectiveness of team debriefings in medical simulation: more best practices. *Qual Patient Saf* 2015;41:115-25.
 51. Ahmed M, Arora S, Russ S, et al. Operation debrief: a SHARP improvement in performance feedback in the operating room. *Ann Surg* 2013;258:958-63, <http://dx.doi.org/10.1097/SLA.0b013e31828c88fe>.
 52. Fanning RM, Gaba DM. Debriefing. In: Gaba DM, Fish KJ, Howard SK, Burden AR, editors. *Crisis management in anesthesiology*. 2nd ed. Philadelphia, PA: Elsevier; 2015.
 53. Murphy JD, Duke WM. The debrief imperative. Campbell, CA: FastPencil, Inc.; 2011. Available at: https://www.amazon.com/kindle/dp/B005DA0CJQ/ref=rdr_kindle_ext_eos_detail#nav-subnav, Accessed 7/1/16.
 54. McDonnell L, Jobe K, Dismukes R, Ames Research Center. Facilitating LOS debriefings: a training manual. NASA Technical Memorandum 112192; 1997. Available at: <http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19970015346.pdf>. Accessed 7/1/16.
 55. Edelson D, Litzinger B, Arora V, et al. Improving in-hospital cardiac arrest process and outcomes with performance debriefing. *Arch Intern Med* 2008;168:1063-9.
 56. Wolfe H, Zebuhr C, Topjian AA, et al. Interdisciplinary ICU cardiac arrest debriefing improves survival outcomes. *Crit Care Med* 2014;42:1688-95, <http://dx.doi.org/10.1097/CCM.0000000000000327>.
 57. Dine CJ, Gersh RE, Leary M, et al. Improving cardiopulmonary resuscitation quality and resuscitation training by combining audiovisual feedback and debriefing. *Crit Care Med* 2008;36:2817-22.
 58. Davis DA, Mazmanian PE, Fordis M. Accuracy of physician self-assessment compared with observed measures of competence: a systematic review. *JAMA* 2006;296:1094-102, <http://dx.doi.org/10.1001/jama.296.9.1094>.
 59. Eva KW, Regehr G. Self-assessment in the health professions: a reformulation and research agenda. *Acad Med* 2005;80:S46-54.