Introduction to debriefing

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ABSTRACT

Debriefing is a lynchpin in the process of learning. As a post-experience analytic process, debriefing is a discussion and analysis of an experience, evaluating and integrating lessons learned into one's cognition and consciousness. Debriefing provides opportunities for exploring and making sense of what happened during an event or experience, discussing what went well and identifying what could be done to change, improve and do better next time. This manuscript serves as an introduction to debriefing, covering a range of topics that include a brief review of its origin, the structure and process of debriefing—specifically in the context of simulation-based medical education, and factors that facilitate effective, successful debriefing. An approach to debriefing immediately after real clinical events will be presented, as well as an evidence-based approach to evaluating debriefing skills of healthcare simulation instructors.

1. Introduction

Debriefing is a lynchpin in the process of learning. Lederman described debriefing as a post-experience analytic process.[1] Debriefing is a discussion and analysis of an experience, evaluating and integrating lessons learned into one's cognition and consciousness.[2] Debriefing provides opportunities for exploring and making sense of what happened during an event or experience, discussing what went well and identifying what could be done to change, improve and do differently or better next time. Rall et al., regard debriefing as, "the heart and soul of the simulation experience."[3] This manuscript serves as an introduction to debriefing, covering a range of topics that include a brief review of its origin, the structure and process of debriefing—specifically in the context of simulation-based medical education, factors that facilitate debriefing and suggestions for successful debriefing. Critical incident stress debriefing (CISD), a specialized form of debriefing those involved in traumatic events, will be mentioned but not discussed in detail. However, an approach to debriefing immediately after real clinical events will be presented. The manuscript concludes with an evidence-based approach to evaluating debriefing skills of healthcare simulation instructors.

2. Brief history of debriefing

Debriefing has roots deeply embedded in the military and the aviation industry; and the fields of education, psychology and business. Debriefing's historical roots in the military stem from the 1940s during World War II (WWII) when the United States (US) Army Brigadier General and chief historian, Samuel Lynn Atwood Marshall, was one of several military

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historians tasked with documenting the events of WWII as they unfolded.[4] He became frustrated by the usual process of reconstructing events from historical data and began conducting "interviews after combat" whereby troops were interviewed in groups immediately after a mission or as soon as fighting had ended. The aim of these sessions was to chronologically reconstruct and describe the event to the smallest detail by those who participated in the event, not to address post-combat psychological distress.[5] These interviews evolved into a systematic process by which key information was obtained from troops about what had occurred, reviewing and assessing the conduct and results of the mission; and gathering intelligence to inform future strategies. This technique was later combined with the military's "performance critiques" to become what is now known as the military's "after action review." Performance critiques were a fundamental component of simulated battle exercises whereby a senior military leader would observe and give feedback to participants at the conclusion of the simulation. Feedback should convey specific information about observed performance compared to a standard, given with the intent to improve the participants' performance.[6] However, these sessions were based on subjective opinion, focused on error, largely negative and poorly received by members of the unit. In the early 1970s, consensus emerged that the traditional top-down approach of giving error-focused feedback fostered resentment and was an ineffective way to achieve the goal of improving team performance.[5] Research driven by the US Army Research Institute for the Behavioral and Social Sciences (ARI) transformed traditional performance critique into a process based on objective performance indicators and guided group discussions in a non-punitive atmosphere fostering self-reflection and learning. The Army's current definition of after-action review is "a professional discussion of an event, focused on performance standards, that enables soldiers to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses."[7] After-action reviews routinely occur after real and simulated missions.

Debriefing also has deep roots in the aviation industry. The crash of Eastern Airlines Flight 401 into the Florida Everglades on a clear December evening in 1972 catalyzed commercial aviation's efforts to develop and incorporate formal training in human factors, crew coordination, communication and resource management.[8] What began as "cockpit resource management," aimed primarily at pilots, became what is now known as "crew resource management" (CRM).[9] Such training programs were shown by Diehl to "reduce aircrew error and thereby prevent accidents."[10] CRM training has the concepts of feedback and debriefing firmly embedded within its curriculum. Such training is applicable to all members of the crew including pilots, flight attendants, air traffic controllers, dispatchers and maintenance personnel.[11] CRM is tightly coupled with aviation's full mission flight simulation training known as "Loft Oriented Flight Training" (LOFT).[12] Aviators adopted the technique of simulation for practice and training by 1910, within 2 years of the first fatal aircrash.[13,14] Advances in technology made full-flight simulation a reality by the mid 1970s, with much of the credit for pioneering its development going to Northwest Airlines.[12] Simulation helped to safely

bridge the gap between acquisition and effective application of knowledge skills and abilities. Guidelines for LOFT were first released by the National Aeronautics and Space Administration (NASA) following a NASA and commercial and military aviation industry-wide conference convened in 1981.[15] Butler states that CRM LOFT training is systematic and intended to "simulate actual problem situations that require good crew skills for effective resolution and decision-making."[16] Crew participation in CRM LOFT debriefing has been mandated by airline companies since the 1980s.[15] LOFT instructors were encouraged since the dawn of LOFT to "act as moderators who helped crews critically analyze and assess their own performance."[17] However, since the 1980s LOFT instructors are specifically trained to facilitate crew debriefings and not merely lecture them on what was done right or wrong.[15]

The concept of facilitation stems from education[18–22] and psychology[23,24] whereby one member of a group, the facilitator, helps others analyze, synthesize and evaluate issues, and extrapolate and apply lessons learned to future situations. Facilitation promotes active participation of trainees through guided discussion and personal exploration. CRM LOFT with facilitated debriefings is well-aligned with Knowles principles of adult learning.[19,20] Of note, critical incident stress debriefing (CISD), also developed during the 1980s, is a specialized form of debriefing for addressing issues related to deception, trauma, disaster or combat-related stress. In this context, debriefing is used to help those who have experienced a traumatic or critical incident deal with their physical and psychological symptoms.[25] A detailed discussion of CISD is beyond the scope of this chapter. However, the coalescence of these various historical roots and the knowledge gained from the wealth of experience and research in the military, aviation industry and education informs our understanding of the role of debriefing in CRM and simulation-based healthcare education.

3. The role of debriefing in healthcare simulation

It was during the late 1980s that David Gaba, an anesthesiologist, translated aviation's "crew resource management" into "critical medical event management," later shortened to "crisis resource management."[26] At the same time, Gaba et al. reintroduced fully interactive human patient mannequin simulators and used them for training anesthesiologists in simulated critical incidents within a comprehensive, simulated anesthesia environment.[27,28] Gaba, regarded as the grandfather of crisis resource management and medical simulation, highly values debriefing as "an integral part of the process of any experiential-learning technique."[26] Gaba's innovations in training anesthesiologists were soon adopted by others in the field.[29] Crisis management and medical simulation-based education has since been adopted across the health professions and disciplines.[30–33] Debriefing and feedback remain fundamental elements of simulation-based learning.[34,35] According to Dieckmann et al., regardless of simulator usage, "the post scenario debriefing is important to maximize learning and facilitating change on an individual and systematic level."[35] Such change may involve modifying

for the better one's attitudes, perceptions, behaviors, actions or technical skills; or the organization's culture, policies, procedures or operational mechanisms. Stewart[36] and Kriz[37] further underscored the critical nature of feedback and debriefing, deeming it unethical *not* to debrief or provide feedback after a simulation or any experiential-learning exercise. Moreover, it is not enough to simply provide learners a debriefing and feedback session. Research on quality of debriefings and the critical role of a facilitator by Smith-Jentsch et al. found that effectiveness of debriefings by trained facilitators correlated with effective performance.[38]

4. Experiential-learning and change theory

Adults learn through experience, by processing it and assimilating lessons learned into their world view. The more relevant the experience is toward achieving personal or professional goals, the more meaningful such learning is regarded.[20] Kolb's theoretical framework of experiential learning is a cornerstone in the educational foundation of simulation-based education[22] (see Fig. 1). In Kolb's cyclical model, learners enter through active engagement in a concrete experience.

The experience is followed by a period of reflective observation. Through self-reflection and facilitated discussions, learners can conceptualize, make sense and gain insight toward a more informed understanding of the event and how this may apply to future situations. The final step in the cycle is experimentation, the phase whereby learners try out the new approach or skills in a future simulated or real event; and so the cycle continues. Kolb's experiential-learning cycle in the context of simulation-based education embodies reflective practice, reflection-in-action and reflection-on-action.[39–42] Reflective practice helps build self-awareness of unconscious cognitive routines and emotional reactions. Through reflective practice, learners can view situations in
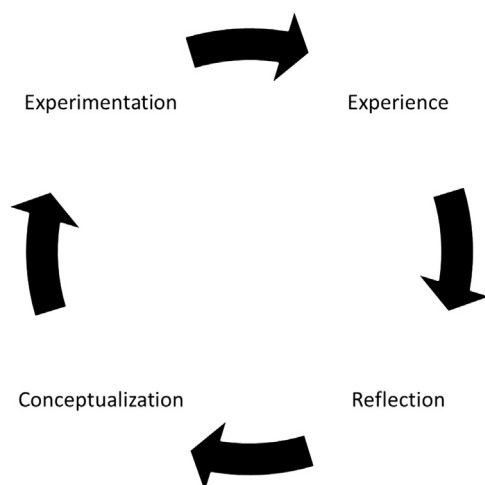

Fig. 1 – Kolb's learning cycle.[22] In Kolb's experiential-learning cycle, a learner enters through an experience, reflects on that experience, analyzes and processes its meaning, and then tries a different approach in a similar, future situation based on their new understanding. (Modified from Kolb.[22])

a different light and develop their capability to change and improve, moving their professional "zones of mastery" toward one of "wisdom" and "artistry" in their practice.[39,41,43]

Participation in a simulated or real experience can trigger a range of emotions in those participating in the event. Emotions can profoundly influence a learner's retention and activation of knowledge.[34,44,45] A core affect that is highly activated can help anchor knowledge, skills and abilities newly gained through experiential-learning cycle. The works of Lewin[46,47] and Schein[48,49] on change theory, "unfreezing-transition-refreezing," highlight the relation of affect to learning. Schein describes human change as a "profound psychological dynamic process" involving "painful unlearning without loss of ego identity." The initial step in this process is that of unlearning, "unfreezing" and recognizing the status quo no longer works, dismantling old habits, techniques or approaches. Unfreezing is followed by the "transition," a process that Schein describes as a "difficult relearning" as one attempts to "restructure one's thoughts, perceptions, feelings and attitudes." This is followed by "refreezing," the process of accepting and assimilating new knowledge, behaviors, techniques or approaches as the new norm.[46] Simulation with facilitated debriefing capitalizes on Lewin's three-step process of change, change that can be transformational and essential to one becoming professionally competent.[50]

5. Structure and process of debriefing in simulation-based medical education

A sentiment shared among simulation educators is that simulation is a good excuse to debrief. There is no universally accepted gold standard approach to debriefing in simulation-based medical education (SBME). However, key structural elements of debriefing have been identified by Lederman that includes, (1) the debriefer, (2) participants to be debriefed, (3) an experience (simulated case), (4) the impact of the experience,[2] (5) recollection, (6) report, and (7) time.[2] (see Table 1.)

A few elements are straightforward and require no further elaboration. Item four, the impact of the experience, relates to the emotional engagement, be it stressful, anxiety-provoking or elating; and the relevance of the experience to the learner. Item six may range from a formal report to completing a survey or questionnaire; and item seven refers to the time that passes between the end of the experience (simulated case) and onset of the debriefing. Debriefing in SBME most often takes place immediately after a simulated

Table 1 – Key Structural Elements in Debriefing[2]	
1.	Debriefer
2.	Participants to be debriefed
3.	An experience (simulated case)
4.	The impact of the experience (simulated case)
5.	Recollection
6.	Report
7.	Time

Seven key structural elements of debriefing identified by Lederman in 1992. (Modified from Lederman.[2])

case. However, there may be instances where a longer period of time is allotted for personal reflection and cognitive processing prior to onset of the formal debriefing.

6. Process of debriefing

Fanning and Gaba reviewed several models of debriefing, not specific to simulation in a medical context, as having anywhere from three to seven steps.[34] Leading SBME experts at the Center for Medical Simulation in Cambridge, Massachusetts, have developed and refined a three-step model of debriefing in SBME (see Table 2) with a reactions phase, an understanding phase and a summary phase.[51,52]

7. Step I. "The reactions phase"

The reactions phase occurs immediately after the simulation has ended and the participants have assembled for the conversation. Emotions may abound, so this phase allows for participants to vent and blow off a little steam. Immediate reactions may be verbalized on the way to the debriefing area so the debriefer should be alert for this opportunity to appreciate raw feelings being expressed by participants. As the debriefer listens to initial reactions of the participants, insight is gained as to what most concerned them about the event. The debriefer can address these concerns during the course of the conversation and discuss how they relate to the learning objectives. Sometimes issues uncovered do not relate to the specific objectives of the case but may rise to a higher level of importance and will need to be addressed at some point in the debriefing. During the reactions phase, the debriefer can provide perspective if a participant's feelings are hurt or if they feel badly about their performance. If so then it may be helpful for the debriefer to let participants know if they have seen such performance by others who have managed this or similar situation; or share that they have personally made the same or similar mistake and reassure

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Table 2 – The Three Stages of Debriefing[52]

I. Reactions
  a. Clear the air
  b. Review the facts
  c. Set the stage for addressing learning objectives

II. Understanding
  a. Explore what happened
  b. Unpack frames through advocacy–inquiry
  c. Apply good judgment and teach, moving participants to new understanding or skills
  d. Generalize lessons learned to real situations

III. Summarize
  a. Review lessons learned
  b. Discuss take-aways, lessons learned that will be applied in future events

The three stages of debriefing with key steps taken by the debriefer during each stage as described by Rudolph et al.[52]

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participants that this is a safe place to make errors and learn from them. This process is called "normalizing."

The reactions phase is also a time to explicitly review the facts of the case and alleviate confusion about the nature of the case. Either the debriefer or a key participant in the case can quickly state the facts and summarize what happened to ensure everyone has a common understanding of what transpired. Gathering reactions, normalizing as needed, and reviewing the facts of the case helps the debriefer set the stage for the understanding phase.

8. Step II. "The understanding phase"

The understanding phase is the heart of the debriefing process. This is the inquiry and analysis phase during which the debriefer learns about what happened from the participants' perspective; and delves deeper to explore their frames of mind, appreciating what participants were thinking at a particular moment or juncture and gaining deeper insight as to what led them to behave, approach a problem, take action or execute a task in a particular way. Frames are the assumptions, goals, knowledge base, awareness or mental model that underlie actions and contribute to results. Rudolph et al. highlighted the relationships between "frames–actions–results"[51] (see Fig. 2).

According to Rudolph et al., the debriefer serves as a "cognitive detective" who uses observations of a participant's or team's performance and outcomes, and works backwards to identify what frames drove their actions.[51] The technique of advocacy–inquiry[51,53,54] provides a model of conversation that promotes transparency and minimizes the guess work for all involved. Advocacy is stating one's views about how one feels or thinks, or expressing one's judgment or promoting a course of action. Inquiry is asking a question. A balanced pairing of advocacy with inquiry facilitates productive conversation. The debriefer advocates from the first person voice: *I saw…, I observed…, I think…, I'm concerned or pleased that…*

This makes explicit what is on the debriefer's mind. It is important that the debriefer be clear, concrete and state observations from the "I" perspective and why this matters. Thereafter, the debriefer follows up immediately with an inquiry from the stance of genuine curiosity and respect, avoiding "guess what I'm thinking" and instead trying to understand what the participant was thinking at the time: *I wonder what…, I'm curious that…, I wonder how you see it or what was on your mind…, I wonder why…?* This conversational schema is as follows:

> *I saw…*
> *I think…*
> *I wonder…*

A balanced advocacy–inquiry approach promotes two-way communication and learning. The debriefer states their viewpoint and inquires into those of the participants; and participants are invited to state their views and inquire into those of their debriefer. According to Senge, blending advocacy with inquiry in conversation takes practice, *"patience and*
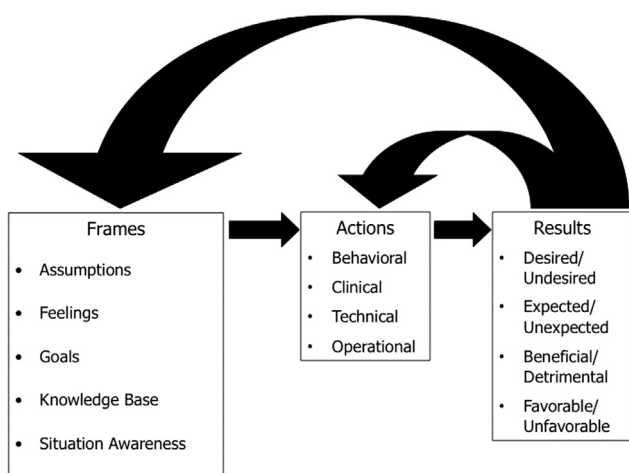
Fig. 2 – Relationship among frames, actions and results.[51] According to Rudolph et al. frames of the participants and the debriefer are invisible, but inferable. Actions and most results are observable. The debriefer aims to uncover the participants' frames that triggered their actions and subsequent results. The process of debriefing leads participants to new or different frames, alternative actions and desired results. (Modified from Rudolph et al.[51])

perseverance are needed to move towards a more balanced approach" and the rewards are gratifying.[53] As the conversation unfolds and frames are discovered, the debriefer becomes a collaborative problem solver with participants and can better guide the discussion to align with learning objectives, and help participants gain a new perspective, understanding or skill set. It is helpful for the debriefer to explicitly preview the topics for participants by saying, *"I have a few things I want to talk about…"* or *"I want to talk to you about a, b, c…."* The debriefer can then present different approaches to diagnosing and managing a situation in a brief lecture as needed. Specific procedural or behavioral skills can be discussed and extrapolated to comparable real situations. The understanding phase closes by generalizing and applying insight gained to real situations, highlighting principles of patient safety and expert clinical practice.

9.   Step III. "The Summary Phase"

The summary phase is the time to review lessons learned. The debriefer asks participants to share what they did well and what they thought went well in the case. Thereafter, the debriefer asks participants what they would do differently next time; what were their take-away points based on what they learnedl; or what they might try to implement in a future, real situation.

10.   Debriefing with good judgment

Rudolph et al. stress the importance of debriefing with good judgment, sharing one's observations and expressing one's opinions and judgments based on the debriefer's expertise.[51] Participants want to know what the debriefer thinks about

their performance. Debriefing with good judgment is being tolerant but not colluding with participants by saying something was ok when it really was not. It does not assume a stance of certainty, righteousness or harsh criticism as with a judgmental approach. It does not assume a stance of trying to maintain good relationships, sugarcoating errors and avoiding shame and blame as with a non-judgmental approach. The non-judgmental approach often contains judgments that the debriefer tries to hide but tends to leak out through verbal or facial expressions and postures, creating mixed messages for the participant and undermining their trust in the debriefer's motives. Debriefing with good judgment involves getting the facts of the case out at the beginning, having clear concise goals and objectives for the case and sharing one's point of view more clearly. As the discussion evolves, the debriefer aims to uncover the perspective of the participants, how they see their performance relative to what was expected and what they expected of themselves. It is the participant adult learner that understands what is going on with and within them. Debriefing with good judgment helps improve or sustain performance by sharing observations, opinions and judgments based on the debriefer's expertise while valuing the unique perspective of the learner. In this way the debriefer can provide information, motivation and applications for change.

11.   Factors that facilitate effective debriefing

There are several factors that facilitate effective debriefing including building an open environment, focusing on key learning objectives, acknowledging the value of each participant and the importance of self-reflection, reassuring participants that debriefing is confidential and managing time constraints.[1–3,15,34] Keys to building an open environment include:

- Ensuring staff have a "zone of safety," a psychologically safe and private area for open discussion.
- Acknowledging the value of staff input, the importance of reflection and analysis of their teamwork and other skills for better managing an event.
- Making it clear debriefing is confidential.

Effective debriefing necessitates a "zone of safety," a zone that is psychologically safe and conducive for learning.[51,55] Ideally, the area should be private and away from the hustle and bustle of routine daily activities. The effective debriefer cultivates the skills necessary to talk about difficult issues in a safe environment. They appreciate that, no matter how quickly they want to change and improve participants' knowledge, skill and abilities, adult learners will change when they choose and are more likely to change if they feel free not to. Such an environment allows learners to feel comfortable expressing themselves, reflecting critically about themselves, diagnosing their own needs and planning and identifying resources to meet their objectives. All members of the simulation team, the technicians, actors and educators, are responsible for maintaining confidentiality and ensuring participants feel welcome and valued. However, the onus of

responsibility for building an open environment rests on the debriefer. The debriefer sets the tone of non-negotiable, mutual respect for all participants. At CMS, debriefers are taught to hold "the basic assumption" about all participants[51]:

The CMS basic assumption:

We believe that everyone participating in activities at CMS is intelligent and well-trained, cares about doing their best and wants to improve.

The assumption is posted in a location that is readily visible to the debriefer and the participants. Holding the basic assumption helps debriefers maintain the stance of curiosity and respect as they walk the tightrope of debriefing. It also helps participants maintain their stance of curiosity and respect for each other and for the debriefer. When participants manage a simulated case ineffectively or unusually poorly then the debriefer has to figure out: *Why did this participant or team perform the way they did and not as expected?* The basic assumption helps the debriefer remember that participants are trying to do their best, trying to do the right thing and always have a rational motive for their actions. Understanding that rationale will guide the debriefer's instruction and match their teaching objectives with problems deemed meaningful by the learners. It is unusual for a participant to intentionally behave badly, act out or be negligent. In such an unusual situation then the basic assumption will not hold and a different strategy may be indicated, such as off-line counseling, remedial training or discipline.

12.　Suggestions for successful debriefing

A successful debriefer understands the debriefing process, and knows when, where and how to debrief. An effective introduction and orientation of the participants to the simulation helps paves the way for a successful debriefing experience. Key components of an effective introduction include attending to personal comfort of participants, building trust and agreeing on non-negotiable mutual respect and confidentiality, providing a good orientation to the simulation environment, and agreeing on the "fiction contract." Dieckmann et al., refer to the fiction contract in SBME as an agreement between participants and simulation educators that, in view of the limitations of the simulator, the educators will do their best to make the simulation as real as possible and the participants will behave *as if* the simulated case was real and treat the mannequin patients as real human patients.[56]

Above all, the successful debriefer maintains the stance of genuine curiosity and respect for all participants, curious about their reasoning, data, concerns and mental model. The debriefer needs to skillfully engage all participants and encourage them to speak up and ask questions. There is a balance between the debriefer talking, inquiring, permitting silence and letting participants talk. Conflict and disagreements may arise during the conversation between participants or with the debriefer. It is ok to disagree but the debriefer is tasked with not letting disagreements get out of hand. Participants may be upset about their own performance, with that of their colleagues or with the specifics of the case. When participants complain about the realism of the simulation then the debriefer is best served to acknowledge the limitations of simulation and not engage in arguments aimed at justifying it or articulate detailed explanations about the mechanics of what the simulation was trying to achieve. The discussion is much more fruitful when the debriefer acknowledges limitations of simulator technology and uses that as a platform for relating back to real situations that have occurred in the past or may occur in the future.

Debriefing skills should be constantly refined through ongoing educational activities, peer assessments and self-evaluation. With deliberate practice and honing of skills, the successful debriefer will develop effective techniques for generating discussion, engaging colleagues and managing challenging conversations and situations. The use of videotape review to highlight success or gaps in performance during the course of debriefing is optional. Fanning and Gaba regard the strategic use of video as a helpful adjunct.[34] However, they state that optimal use of video is "currently an art and not a science."

13.　Debriefing immediately after a clinical event

Debriefing has been classified in various ways, such as according to who leads the session, by a trained facilitator versus self or team-directed; or the context of the situation, a simulated versus a real clinical event.[34] Thus far, facilitated debriefing of simulated cases has been the primary focus of this chapter. As critical as debriefing is after simulated cases, it also has tremendous value when performed after real events.[1,4,17,57–60] Why debrief in real-time? Above all, it is an opportunity for learning and improving patient care, reviewing what went well and what can be done to improve teamwork and organizational systems. The team's ability to recall details of the event is fresh and no detail is too small if it leads to improvement in patient care. Routinely debriefing after normal and critical, high acuity–low frequency, events is the goal. If time is taken to debrief after normal events then debriefing is more likely to happen after critical events. The greatest challenge of debriefing in real-time is in creating a zone of safety that is peer-protected and nested within a dynamic, high-risk clinical area such as labor and delivery. Given the fast pace in high acuity care areas, securing a safe place to gather the team for about 3–5 min and debrief immediately after a critical event is do-able although it may seem impossible.

The basic mechanics of debriefing after a real clinical event are teammates assembling, discussing and reviewing what happened, what went well and what specifically could be done better next time. It is important to set the tone of non-negotiable mutual respect, maintaining an atmosphere that is blame free. Topics for discussion include the team's assumptions, actions and feelings, the team's teamwork and communication and the utility or availability of equipment and resources. Teammates take turns identifying what specifically went well with teamwork, clinical care, technical

performance or systems. Teammates then take turns identifying what specifically can be done to improve and how to go about it.

Depending on the circumstances and clinical outcome, a more formal review of events may be needed such as referral to quality assurance or risk management for a formal root-cause analysis.

Debriefs conducted in real-time will more likely be self-directed and not led by an external facilitator or trained debriefer, especially after a routine event with a good outcome. However, a moderator can be self-declared or designated by role, such as the team leader, nurse leader or the event manager, whose primary task is to move the conversation along if it is getting stalled, circular or unproductive. If a moderator is designated by role then specific training in debriefing can be arranged. With or without a trained debriefer, a simple model to follow is the "plus–delta debrief" (see Table 3).

The plus–delta debriefing model is based on the approach designed for commercial aviation and modified for healthcare.[61] This model is quick, convenient and easy to use as an after-action review. The "plus" column indicates things that went well and the "delta" column indicates things that need to be changed and how to change them. The key is to have teammates be specific. The plus–delta debriefing approach tends to focus on actions and system-related issues and not frames.

In summary, debriefing allows us to learn what went well and what did not go well so that individuals within the organization can learn how to work together better as a team. No detail is too small to identify if it leads to improvement in the system. With practice and consistency, debriefing can become a habit and more natural and comfortable after an urgent event or emergent one with a poor outcome. Debriefing after each event, whether routine or not, facilitates cultural change necessary to talk more openly about team performance, and learn from near misses, errors and successes.[62,63]

14.   Assessing skills of debriefers in healthcare simulation

Until recently, there have been no standardized instruments to assess the quality of debriefings in SMBE. In 2009, experts in healthcare simulation-based education at CMS developed a tool for evaluating and developing strategies and techniques for debriefing.[64] The Debriefing Assessment for Simulation in Healthcare©, "The DASH©," is a tool that was specifically designed for use by trained raters to assesses a debriefer's behaviors and actions that facilitate learning and change in wide range of experiential settings. The rater version of the tool is based on a behaviorally anchored rating scale (BARS) that contains six explicitly defined elements that include (1) establishing an engaging learning environment, (2) maintaining an engaging learning environment; (3) structures the debriefing in an organized way, (4) provokes engaging discussions, (5) identifies and explores performance gaps, and (6) helps trainees achieve or sustain good future performance. No explicit weightage was assigned to individual elements. Raters are asked to observe the debriefer's performance and compare this to the defined elements, using a seven-point rating scale with "1" being "Extremely ineffective/abysmal" and "7" being "Extremely effective/outstanding." The psychometric properties of the tool were evaluated to assess reliability and detect evidence of validity by asking instructors to review a series of three standardized debriefing sessions. The investigators found that the intraclass correlation coefficient for the individual elements was greater than 0.6 and the overall intraclass correlation coefficient for the combined elements was 0.74. They concluded that the DASH© scores showed evidence of good reliability and preliminary evidence of validity. Additional research is underway to further explore its psychometric properties and assess the generalizability of the DASH© in other settings. A detailed discussion of the DASH© is beyond the scope of this chapter. However, additional information about the DASH© is available at ⟨http://www.harvardmedsim.org/debriefing-assesment-simulation-healthcare.php⟩. The site provides links to download the instructional guide for using the tool, the bibliography, and the various versions of the DASH© that have since been developed, including the full version for rating by trained raters, the student version for rating their instructor and the instructor version for self-evaluation.

15.   Conclusion

Debriefing is the cornerstone of the simulation experience. It is a unique opportunity for discussing and analyzing experiences, making sense of what happened and integrating

Table 3 – The Plus–Delta Debriefing Model—Example[61]	
+ "Plus" *Team identifies what specifically went well*	Δ "Delta" *Team identifies what specifically to change and do better next time*
• Inga stated the situation clearly out loud for the team and asked for help early: We have a shoulder dystocia, get help • Edward closed the loop about where to apply the suprapubic pressure • Marie kept track of time and announced it out loud to the team	• Teammates need to remember to call out each other by name • Teammates need to close the loop of communication • Ob providers need to switch sooner in managing the delivery and not fixate on one maneuver
The plus–delta debriefing model, adapted from aviation for use in healthcare settings, can be performed in 5 min or less by the team immediately after any routine or critical event. Items identified can be used to facilitate organizational change. (Modified from Klair.[61])	

lessons learned to improve performance and do better in the future. An effective debriefer understands the process of debriefing, the art and science of engaging adult learners and building an open environment that is psychologically safe and conducive for learning. He helps learners identify and explore performance gaps and bridge them to improve future performance. This chapter has provided an introduction to debriefing in simulation-based education, an appreciation for its historical roots and the wealth of research and educational foundation upon which it rests. The concepts articulated in this chapter serve to set the stage for the reader's own pursuit and mastery of the art and science of debriefing in simulation-based healthcare education.

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Acknowledgments

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