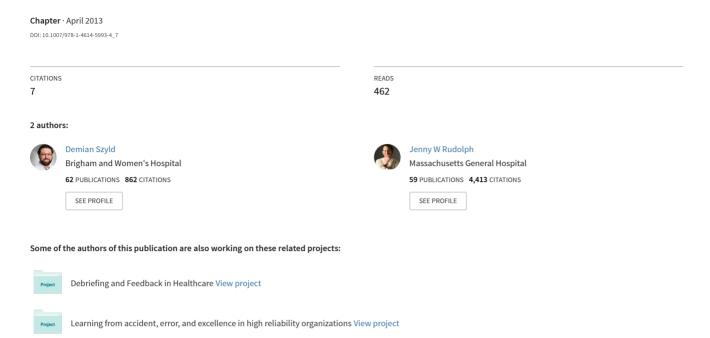
Debriefing with Good Judgment



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Introduction

Debriefing is the learning conversation between instructors and trainees that follows a simulation [1-3]. Like our patients and other biological organisms, debriefing is composed of both structure and function. Debriefing instructors need to understand the anatomy of a debriefing session (structural elements), the physiology (what works and how) and pathophysiology (what can go wrong), and the management options and for these condition (what instructors can do to improve outcomes). Given that structure and function are closely linked, we go back and forth in these two domains hoping to render a full picture for the simulation instructor poised to lead a debriefing.

Typically, debriefings last one to three times as long as the length of the simulation. A simulation session is composed of the scenario and the debriefing that follows. To meet its objectives, a simulation-based course may comprise one or more simulation sessions. A rigorous review of the literature on simulation based medical education lists feedback as one of the most important features [4]. While there might be learning in action when learners participate in a simulation, action and experience alone often are not sufficient for significant and sustained change [5]. The debriefing period

presents the major opportunity for reflection, feedback, and behavior change; learning from action requires external feedback and guided reflection [6, 7]. The instructor's role in providing feedback and guiding reflection is critical, as they must help learners recover from the intense, frequently stressful experience of the simulation and at the same time ensure that reflecting on said experience yields learning and growth in accordance with the stated educational goals of the session [6]. Therefore, the major factors in debriefing are the following: the learning objectives, the simulation that occurred, the learners or participants, and the instructor or debriefer (see Table 7.1).

The role of simulation instructor is broader than the discussion of debriefing. In addition to debriefing, simulation instructors identify or create simulation sessions, prepare for and enact simulations, and evaluate learners and programs. This chapter focuses on the four principles that can enable instructors to effectively prepare and debrief a simulation session in order to achieve their curricular goals (Table 7.2). In this context we will describe the debriefing philosophy of "Debriefing with Good Judgment" [13, 14], an evidencebased and theory-driven structure of formative feedback, reflection, and behavior change that drives the educational process. This approach was developed and tested at the Center for Medical Simulation in Cambridge, Massachusetts, in over 6,000 debriefings and has been taught to more than 1,500 instructors through the Institute for Medical Simulation.

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Debriefing with Good Judgment

Learning Objectives Are Clearly Defined Prior to Simulation Session

Clear objectives are requisite for trainees to reliably accomplish curricular goals and for faculty to help them get there. Just as we assess and manage patients with particular goals of hemodynamic stability or other measures of wellness, when learning objectives are clarified in advance, we give ourselves

Table 7.1 Definitions

	Definition	Examples
Learning objectives	Two to three observable accomplishments of learners following a simulation session	Treat the reversible causes of PEA arrest Utilize the SPIKES protocol for giving bad news [8] Value and consistently utilize closed loop communication during crisis situations
Simulation	The encounter of individual or group experiences during a simulation session and is discussed during the debriefing	ED patient in shock or cardiac arrest Fire in the labor floor or in the operating room [9, 10] Family meeting to discuss discharger planning [11] or disclose an error [12]
Learners	The participant or participants in a simulation course. Not all learners in a debriefing must participate in each simulation	6 labor floor nurses A complete trauma team (ED nurse, anesthesiologist, EM physician, trauma surgeon, respiratory therapist) Medical and nursing students
Debriefer	The instructor who leads the learners through the debriefing. This person is prepared to discuss the learning objectives and has the ability to give feedback and help learners reflect on their performance as well as prepare for future encounters	A faculty member in the same field as the learners A trained instructor with credentials and expertise in another specialty (clinical or otherwise)

PEA Pulseless Electrical Activity, ED Emergency Department

Table 7.2 Four key principles of "Debriefing with Good Judgment"

- 1. Learning objectives are clearly defined prior to simulation session.
- 2. Set expectations clearly for the debriefing session.
- 3. Be curious, give feedback, but do not try to "fix" your learners.
- Organize the debriefing session into three phases: Reactions, Analysis, and Summary.

and our learners goals to reach by the end of a session. For example, if we want the team members to collaborate on executing the appropriate maneuvers to manage a shoulder dystocia, we know that by the end of the simulation and the debriefing, we want the learners to appreciate what knowledge, skills, or attitudes (KSAs) helped or hindered them in the course of the simulation. We also want them to appreciate which of the effective KSA's to retain and how to modify or change the ineffective ones. Clearly defined learning objectives serve as anchors for both trainees and faculty to focus their attention and discussion. One of the common pitfalls is that realistic, engaging simulations usually represent complex and rich experiences that could yield a myriad of teaching and learning opportunities (much like any interesting clinical experience). Instructors need to be prepared to lead discussions on the chosen topics, even though these represent a very small subset of all the possible thought-provoking conversations. Therefore, in order for faculty to engage deeply in the material, they must have clear understanding of both the details of the case as well as the desired learning outcomes.

Learning objectives, once elucidated and defined, serve a number of critical purposes. They define that considered germane which should be covered during the debriefing and aide the instructor in deciding what topics to steer away from. They allow instructors to develop short didactic "lecturettes" to efficiently describe the current evidence-based or best practices related to a given objective when knowledge gaps exist

(usually less than 5 min). Finally, they provide the desired performance level or standard against which observed trainee performance is compared. The ideal learning objective is learner centered, measurable or observable, and specific. For example, when a learning objective reads "Intubate a 4-year-old trauma patient within 15 min of arrival while maintaining cervical stabilization and preventing desaturation," the performance standard is clear and easy to assess.

Whether to reveal the learning objectives at the beginning of the simulation sessions remains controversial. Many believe they should be stated explicitly at the beginning of a course or session; however, there is tension between openly sharing learning objectives with trainees (this helps them focus on how to perform and what to learn) and revealing them only after the trainee had an opportunity to discover them either in action (simulation) or reflection (debriefing). Alternatively, a broader set of goals and objectives can be shared with the students without "ruining" the experiential learning process through discovery. For example, the learning outcome might state: "At the end of the session trainees will deliver medications safely by confirming the right patient, the right medication, the right route of administration, and the right time." Instructors may choose to introduce the session simply by saying that the goal of the session is to practice safety in medication administration. Stating a broader goal can focus learners to the topic and keep them oriented to the activity without prescribing a definite course of action. Instructors can take comfort while sharing specific, observable, measurable learning objectives because as we have repeatedly experienced, knowing what to do is necessary butw not sufficient for expert performance. A complex scenario will challenge many well-prepared learners. The following case studies illustrate the advantages of defining and sharing objectives for both teachers and learners (Table 7.3).

Table 7.3 Case studies for clearly defined learning objectives

Case study	Anatomy	Physiology	Pathophysiology	Management
Instructor utilizes shoulder dystocia case provided by simulation center. No specific learning objectives available	Learners manage the case without a learning goal. Although it is not stated, they are aware that shoulder dystocia and teamwork are taught with simulation The instructor has a general viewpoint for anchoring observations about team performance	During the debriefing learners wonder why they were asked to manage this patient. The instructor gives general commentary about team communication and performance	Learners do not gain new insights about their performance, as they are not provided with specific feedback. They are unable to reflect specifically on areas to improve or correct. Learners regard general comments as undeserved or false praise	Without having specific learning, instructors can teach generic concepts. Instructors can also appeal to the learners as a source of knowledge. Gaining credibility is difficult, as the instructor is not availed of the concepts or evidence
Instructor has clearly outlined learning objectives for the case: "Declare presence of shoulder dystocia in order to avoid injury to the infant's brachial plexus." The objective is <i>not</i> shared prior to the scenario	Learners manage the case without a learning goal. Although it is not stated, they are aware that shoulder dystocia and teamwork are taught with simulation. The instructor observes the team performance, focusing communication primarily	During the debriefing learners wonder why they were asked to manage this patient. The instructor gives specific feedback about communication and in particular on the need to declare the condition (shoulder dystocia)	Learners begin the reflection process feeling good about successfully managing the patient. The instructor helps learners reflect on communication and notes that they did not explicitly declare the emergency. Learners no longer feel good about their performance and state that they thought the goal of the scenario was to perform the requisite maneuvers	The instructor validates the learner's performance vis-à-vis the clinical management in an effort to restore positive feeling and attempts to give weight to the communication goal
Instructor has clearly outlined learning objectives: "Declare presence of shoulder dystocia in order to avoid injury to the infant's brachial plexus". The objective <i>is</i> shared prior to the scenario	Learners manage the patient and are aware that improving communication during shoulder dystocia is the learning objective	During the debriefing learners reflect on the management of shoulder dystocia including the importance of explicitly stating the diagnosis. The instructor gives feedback about communication and in particular on the need to declare the condition and helps the learners reflect on the challenges of consistently stating their diagnostic thought process	Although the team successfully managed the patient, performed the maneuvers, and delivered the infant after declaring the presence of shoulder dystocia, a rich conversation ensues about the value and tension when being explicit about thought process, since it may benefits the team but could scare the patient and family, some worry that it could increase the risk of litigation	The instructor validates the learners and helps them engage around the stated goals, exploring enablers and barriers to expert performance

In this example a labor floor team gathers for weekly in situ simulation. The participants include the anesthesiologist, midwife, labor nurse, and on-call obstetrician. During the case the physical and pharmacologic maneuvers are instituted and the infant is delivered in a timely fashion

Set Expectations Clearly for the Debriefing Session

Benjamin Franklin said, "An ounce of prevention is worth a pound of cure." Although he was referring to fire fighting, the same applies to the beginning of a debriefing session. One of the most common problems debriefers face is the participant that becomes defensive during a debriefing. Setting expectations clearly is the preventive strategy that mitigates this problem. Participants become defensive when they perceive a mismatch between their expectations and their experience. This dissonance is identified by trainees as negative and threatening. Investing time and energy early in the course and in the debriefing to orient learners pays off for instructors [15, 16].

In general, faculty should introduce themselves including their credentials, relevant experience, and any biases or potential conflicts of interests and encourage all participants to follow suit [17]. It can be helpful if faculty put forth a personal goal such as a desire to learn from the experience or improve their abilities. If faculty foster a climate of learning and encourage respectful dialogue from the outset, trainees will aim to maintain and sustain it through the simulation and debriefing periods. A psychologically safe environment allows people to reflect and share their feelings, assumptions, and opinions as well as to speak up and discuss difficulty topics [18].

The *us versus them* dynamic can also contribute to a threatening environment that participants may experience during debriefing. Being on the defensive is triggered when the participant's professional identity is at risk. In the eyes of the participants, the simulation environment is used *by* the instructors *for* the trainees to make mistakes. Participants direct their emotion towards the faculty as they are perceived as both the source of criticism and the causal agent.

Faculty can minimize the effect by showing sympathy during the introduction for example by stating up front that learning with simulation can be confusing or disorienting. Similarly, it is advised that instructors avoid "over selling" the level of realism achieved by a simulation [19]. Although many ask trainees to "suspend their disbelief," an alternative is for educator and student to develop a "contract" collaboratively on rules of engagement within the simulated environment as best as possible given the limitations [20]. The latter strategy is a "virtual contract" where instructors agree to play fair and do their best to set up simulations that are realistic and designed to help trainees learn (not look bad or fail) and trainees agree to engage in the simulation to the best of their ability, treating the simulated patients respectfully and approaching the scenarios professionally.

Many trainees find learning with simulation anxietyprovoking because of its public nature; it uses audio and video recordings for documentation and debriefing, and the potential for assessment and reporting. Setting expectations about confidentiality and the nature of the assessment (formative vs. summative/high stakes) also contributes to a safe learning environment (Table 7.4). Presenting these important limits early in a simulation course can supersede unpleasant surprises for both faculty and learners alike.

Be Curious, Give Feedback, but Do Not Try to "Fix" Your Learners

Judgmental Versus Nonjudgmental Approach

The mindset of the faculty can influence the teaching and learning process in debriefings. An instructor can use inquiry and curiosity to offer performance critique without being overtly critical of the person. One strategy faculty can adopt in order to foster a psychologically safe environment is to assume that the trainee was operating under the best intentions, treating mistakes as puzzles to be solved rather than behaviors to be punished. Debriefers may be ambivalent about judging their trainees' performance and giving direct feedback. They may worry that being critical or negative can jeopardize the teacher-learner relationship. Giving the trainees the benefit of the doubt helps debriefers connect with the student in order to foster self-reflection. The ideal debriefer combines curiosity about and respect for the trainee with judgment about their performance [4]. When trainees feel an alliance with their instructor, trainees may openly share thought processes and assumptions that drove their behavior during the simulation. A healthy dose of curiosity about the learner can transform the tone, body language, timing, framing, delivery, and impact of a simple question such as what were you thinking when you saw that the patient doing poorly?

Frames, Actions, and Results

When an instructor witnesses a subpar performance, they could attempt to teach or "fix" the learner by coaching them on their actions. While this may sometimes be effective, often it is not [8]. In the reflective practice model, "frames" (invisible thought processes) lead to "actions" (observable), which in turn lead to "results" (also observable). Coaching at the level of the actions observed may not yield generalizable lessons [5, 6, 13, 14]. For example, the trainee might hold a frame (ventilating a patient during procedural sedation leads to stomach insufflation, gastric distention, and aspiration of gastric contents - which must be avoided), which leads to an action (wait for apnea to resolve rather than ventilate patient with low oxygen saturation), which in turn leads to a clinical result (patient suffers anoxic brain injury). Debriefers hoping for sustainable behavior change should be curious to uncover a trainee's frame as well as the actions these frames might promote. Trainees that can move towards a new (and

Table 7.4 Case studies for set expectations clearly for the debriefing session

Management	Try to ally yourself in the teaching and learning process. Join your learners in the journey. Grant added psychological safety by stating that it is very likely that they will not behave exactly as they would in "real life"	Do not oversell or undersell the capabilities or realism or the technology [12] Avoid a mismatch between learners' expectations and experience	Encourage participation by exposing your perspective and goals. Maintain instructor end of the fiction contract—work hard to simulate and situations authentic
Pathophysiology	Rather than gaining the trust of her trainees, when instructors rely on positional authority, learners can be skeptical, mistrustful, or resentful	In the absence of a fair orientation, learners are frequently defensive – this gets in the way of reflection and hinders learning. Signs and symptoms of defensiveness include: quiet participants, statements of low physical or conceptual realism, not forgiving of technological limitations	Participants do not display expected speed or seriousness for the topic or acuity of the case presented. They do not participate or are not willing to reflect on or discuss difficult topics
Physiology	Trainees respect the instructor because of Rather than gaining the trust of her her critical care experience (7 years as a night nurse) and are interested in her questions as when she leads the debriefing she serves as a fallibility model – she does not have all the answers [21]	Participants lower their defenses, as they know more of what to expect. During the scenario they experience less confusion. If they are surprised, it is because of scenario design, not an artifact of being in a simulation. If they feel defensive, they are unlikely to focus on issues of realism	Participants will be activated and fully immersed in the care of the patient. They might feel as if they have stopped acting or state that the situation was realistic even though the technology has limitations
Anatomy	The simulation instructor states her clinical background/expertise and shares her own desire to improve her ability to perform in critical resuscitations	Participants understand or experience the "rules" – how to order and give medications, call consultants, and acquire information from the medical record. They also may have a chance to see the space prior to being in it	Encourage participants to engage in the simulator as well as in the debriefing
Case study	Welcome and introduction	Orientation to the simulation environment. This can be accomplished in writing, via web page or video, or in person	Set forth the expectation of active participation and agree on the fiction contract [20] ^a

The simulation instructor orients the learners to the simulation session including the simulation environment and the debriefing session at the beginning of a course on crisis management aPeter Dieckmann, PhD, introduced the notion of the fiction contract to the healthcare simulation community

improved) frame can improve their performance in future situations as their actions are now the consequence of their improved frame [10–14].

Exploring trainees' frames and examining their actions is not the only purpose of debriefing. The debriefer's role is to help trainees see problems in their frames and understand and appreciate alternatives [15]. Debriefers should avoid attempting to be nonjudgmental since such a position has two major drawbacks – one obvious and one subtle. When withholding judgment, the debriefer is ineffective in giving feedback to the learner as the nonjudgmental approach makes it difficult to share information with the trainee about their performance (usually in the hopes of saving face or keeping within social norms where criticism is construed as malicious). But the more problematic side of this approach is that it is virtually impossible to hide such judgment. Trainees pick up on subtle nonverbal cues projected by the debriefer (mostly subconsciously) when they differ in opinion. This is frequently transparent to the learner and can trigger anxiety or shame and lead to distance. Trainees pick up on this and may become defensive or close minded as they reject the dissonance between what they hear and what they perceive [13, 22].

"Good Judgment" Approach

Given that the judgmental and the nonjudgmental approaches have their limitations (for both learners and faculty), an alternative approach that fosters psychological safety and an effective learning climate for instructors is known as the "good judgment" approach [14]. Faculty aim to be direct about their observations, to share their point of view with the goal of inquiring about the trainees' frames, in the hope to work together towards understanding rather than fixing their behaviors. The combination of an observational assertion or statement with a question (advocacy+inquiry) exposes both the debriefer's observation and judgment. This approach allows instructors to efficiently provide direct feedback to the learner and to explore the trainees' frames during debriefing. Returning to the example of managing a shoulder dystocia, the instructor could say: "I saw the midwife and obstetrician applying suprapubic pressure and doing the McRobert's maneuver to free the baby; however, I did not notice anyone informing the anesthesiologist that they may be needed to prepare for an emergency C-section" (behavioral feedback). This omission could lead to a delay and expose the child to prolonged hypoxia (feedback on the clinical consequences). I am curious to know how you interpreted this (starting the process of eliciting the learner's frames about the situation)? (See Table 7.5.)

This generic approach can be used in any debriefing: (1) observe a result relevant to the learning objective, (2) observe what actions appeared to lead to the result, and (3) use advocacy and inquiry to discover the frames that produced the results. This approach in earnest encompasses this competency for the debriefer.

Organize the Debriefing Session into Three Phases: Reactions, Analysis, and Summary

Debriefing sessions should allow participants in a simulation session time to (1) processes their initial reactions and feelings, (2) describe the events and actions, (3) review omissions and challenges, (4) analyze what happened and how to improve, generalize and apply this new view to other situations, and (5) summarize those lessons learned. This approach is supported by the healthcare debriefing literature and has yielded several debriefing styles or structures [1, 7, 22].

The Reactions Phase

The Reactions Phase is meant to allow trainees to share their emotions and initial reactions – to "blow-off steam" as they transition from the highly activated state of the simulated clinical encounter to the calmer, lower intensity setting of the debriefing room. Trainees open up in this short but important phase to the questions "how did that feel?" or "what are your initial thoughts?" Faculty can validate these initial reactions by active listening techniques and at the same time collect learner-generated goals for the debriefing [23]. It can be difficult for trainees to analyze their actions without this process [24]. Additionally, in the reactions phase trainees should review the main facts of the case (clinical and teamwork challenges alike) so that at the outset all of the participants share an understanding of the key features of the simulation. Faculty sometimes need to fill in some of the clinical or social facts that they may have missed. In summary, the reactions phase is composed of both feelings and facts.

The Analysis Phase

In the analysis phase, the instructor helps trainees identify major performance gaps with regard to the predefined learning objectives. Trainees and faculty work together to analyze the performance and find ways to fill the performance gap. There are four steps to follow in this process [14]:

- 1. Observe the gap between desired and actual performance.
- 2. Provide feedback about the performance gap.
- 3. Investigate basis for performance gap.
- 4. Help close the gap through discussion and didactics.

Performance Gaps

Implicit in the third step is that the basis for the performance gap is not uniform among learners. Therefore, generous exploration is required to discover the trainees' assumptions related to the learning objectives. Helping a trainee close the performance gap through discussion and teaching is much easier once they have shared their reasoning and thinking. Although we cannot "fix" or "change" the learner unilaterally, by fostering reflection, supplying new knowledge, encouraging different attitudes, and developing skills and perspectives, debriefers can help trainees close the performance gap.

Table 7.5 Case studies for the nonjudgmental, judgmental, and good judgment debriefing

	description of the second of t	and largement accurations			
Case study	Anatomy (debriefer's words to the obstetrician)	Physiology (effect on and response of the learner)	Pathophysiology (learner's thoughts)	Management (intention and thought process of the debriefer)	
Nonjudgmental debriefing	"While you performed suprapublic Quiet pressure and McRobert's effectively, Tentative was there anything you could have Guarded done better in terms of communicating with the anesthesiologist?"	Quiet Tentative Guarded	Wonders and tries to guess what the debriefer thinks about their performance. Infers that a mistake was made since the debriefer has brought up the topic	Get the trainee to change If I share my judgment, they will be too hurt to be able to learn The best way to learn is if they come to it on their own	
Judgmental debriefing	"While you performed suprapubic Avoidant pressure and McRobert's effectively, Defensive you delayed the anesthesiologist and the C-section by not helping them anticipate".	Avoidant Defensive Confrontational	Knows what the debriefer thinks Wants to correct the behavior Does not examine his/her thought process	Get the trainee to change If I share my judgment, they will learn A strong statement cements the learning objective	
Good judgment debriefing	Good judgment debriefing "I saw the midwife and obstetrician applying suprapubic pressure and doing the McRobert's maneuver to free the baby but not telling the anesthesiologist that they needed to prepare for an emergency C-section. I worried it could lead to a delay starting the delivery and expose the child to prolonged hypoxia. I am curious to know how you see this?"	Engaged Interested Reflective	Knows what the debriefer thinks Wants to correct the behavior Examines the thought process leading to the behavior	I will create a context in which learners can examine their thoughts and change If I share my judgment, they will know where I am coming from, get clear feedback, and begin to reflect and learn Clear feedback regarding my observation, the clinical consequence and my judgment paired with a short inquiry can help expose trainee's frames. Once these are evident (to them and me) I can help guide them better	

An obstetrics team including obstetrician, anesthesiologist, staff nurse, midwife, and charge nurse encounters a shoulder dystocia delivering a child requiring an emergency cesarean section

A brief but important note should be made regarding the nature of performance gaps. They can be small or large, positive or negative. Positive performance gaps are noted when trainees surpass expectations for the case and for their level of training. These positive variances must be explored in order to help trainees and their peers sustain the behavior in future performances. Many debriefers are much more comfortable and effective at giving feedback on negative performance gaps. It is important to help learners and teams understand the range of their performance when they have performed below, at, or above what is expected for the task, topic, and level of training and experience.

Each learning objective treated should yield generalizable lessons that trainees can apply to new clinical settings and different cases. Faculty can facilitate this by making them explicit. For example, what was learned in treating hypoglycemia while searching for other causes of a change in mental status should be generalized to other situations: empiric therapy for a common condition should not preclude nor be delayed by investigation of other causes – treat dehydration in febrile children despite the possibility of sepsis.

The Summary Phase

The summary phase is the final phase of debriefing. Here, instructors should allow trainees to share new insights with each other as they reflect on their past and future performance, process new knowledge, and prepare to transfer gains to future clinical situations. Faculty should signal that the debriefing session is coming to a close and invite trainees to share their current view of what went well and what they hope to sustain as well as what they hope to change or improve in the future. In general, instructors should avoid summarizing at this stage unless the predefined learning objectives were not met nor discussed by the trainees. Another option is to ask participants to share their main "take-home points" from the session and the discussion. Frequently, there is significant diversity from the trainees at this stage that is rewarding for students and teachers alike.

Conclusion

Transparency in learning goals, understanding and use of simulation education and debriefing, mindset towards learning, and the structure of the debriefing can help orient, focus, relax, and prepare trainees for learning during debriefing. Good judgment can help faculty to give direct feedback, share their point of view, and understand their trainees' frames in order to help them sustain and improve their performance.

In this chapter we have shared four key tenets for debriefers. This approach to debriefing favors preparation of goals and specific knowledge of the subject matter including the performance standard so that trainees receive clear feedback.

Feedback with good judgment is critical for reflection, and reflection on one's thoughts and actions is the basis of change and learning. As such, the debriefer is a cognitive diagnostician searching for the trainee's frames hoping to diagnose and treat appropriately. In its current state, simulation is confusing enough as it is. Learners benefit from being pointed away from distractions and towards the important lessons by the faculty. Clear, specific, explicit learning objectives can greatly facilitate this process. Following a three-phase debriefing helps trainees as the method is predictable and form and function are aligned. The reactions phase deactivates learners and clarifies what happened in the simulation including many clinical details. In the analysis phase instructors give feedback and help trainees identify and close performance gaps. Learners reach new understandings, in particular about their thoughts, assumptions, beliefs, and experience. During the summary phase trainees prepare to transfer these gains of new knowledge, skills, and attitudes to their current and future clinical environments. Central in the educational process of learning with simulation is the debriefing. It is our hope that reading this chapter deepened your understanding and helps you reflect on your practice.

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