

Corewell Health Clinical Simulation

FACILITATOR'S HANDBOOK





Introduction to our Facilitator’s Handbook

We are thrilled that you have chosen to explore our educational materials on effective simulation facilitation. Our goal is to provide you with the knowledge, skills, and confidence needed to lead and debrief clinical simulations successfully. Whether you are new to simulation or seeking to enhance your facilitation techniques, our educational handbook offers practical methods grounded in current best practices and standards.

This handbook is beneficial for any healthcare professional interested in using clinical simulation for education, team training, design, and process improvement in healthcare. The resources provided will help facilitators implement simulation as an effective learning tool, engaging learners in a safe environment. We hope this curated content enhances your impact as a simulation facilitator and educator.

Handbook Objectives

- Describe fundamental concepts of simulation-based education
- Clarify the key advantages of simulation
- Explain the structure and function of Corewell Health West Clinical Simulation
- Compare and contrast the key methods and modalities of simulation
- Describe stages of prebriefing and simulation preparation
- Summarize debriefing and describe the goals of debriefing
- Outline the importance of evaluation and assessment tools

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Lesson One

Clinical Simulation at Corewell Health

Our multidisciplinary team is dedicated to supporting your educational needs. Whether it is operational assistance or curriculum development, we provide consultation and facilitation for all forms of clinical simulation.

Our Mission and Vision

Corewell Health West's Clinical Simulation team is driven by our mission and vision. Everything we do is to improve the quality of healthcare we can provide our patients. Our mission statement is below and our vision and values are indicated on the table to the right.

Our mission is to transform patient safety, quality, education and research through experiential learning and technological advancements in a controlled training environment.

Learning Environment

- Offering a multi-modal simulation environment utilizing an interdisciplinary approach to education
- Cultivation of compassionate, skilled, and innovate healthcare professionals
- Creating an environment that fosters collaboration
- Striving for healthcare education that champions the highest standards of patient safety and quality improvement

Evidence-Based Practice

- Employing simulation best practices
- Cultivate an environment of continuous quality improvement
- Leveraging technology to enrich learning, teaching, and research endeavors
- Employing evidence based clinical decision making and evaluation methods to uphold best practices

Clinical & Academic Excellence

- Mission/vision driven
- Enhance teaching to inspire learning, and promote improved patient outcomes
- Incorporate hospital strategic plans into the simulation environment
- Leveraging simulation as a teaching modality, utilizing cutting-edge technology to drive strategic plans
- Cultivate healthcare teamwork while advancing high reliability principles
- Providing simulation as an option to rehearse complex cases for optimal patient outcomes

Resource Development

- Stewardship and accountability of resources
- Fostering quality, safety, and efficiency through collaborative partnerships
- Leadership in innovative use of simulation-based education technologies for healthcare education
- Providing enhanced community outreach
- Establishing leadership, expertise, and support
- Investing in technology, education, and infrastructure to empower healthcare learners to deliver high quality, accessible healthcare

Simulation Advisory Council

The Simulation Advisory Council serves to advance the mission, vision, and values of Corewell Health West and the Corewell Health Clinical Simulation Center (CHCSC) by establishing and maintaining principles to ensure optimal and equitable use of simulation resources. The multidisciplinary Membership of the Simulation Advisory Council shall consist of:

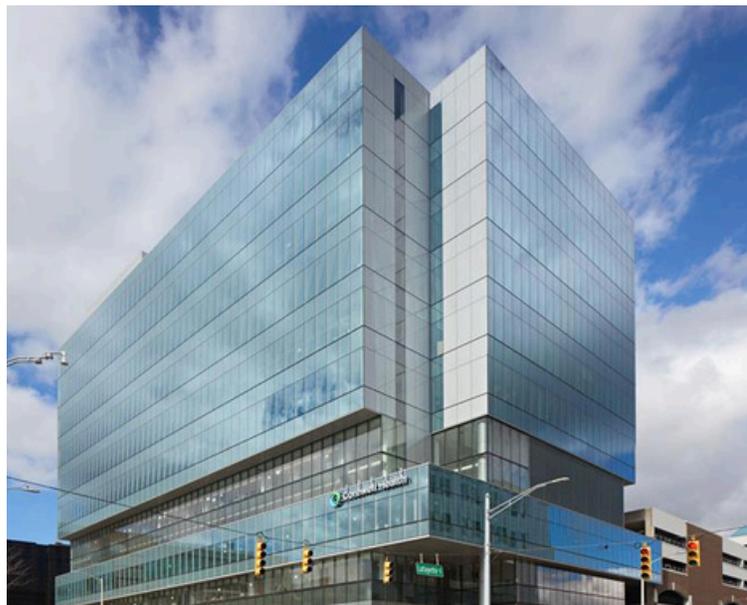
- DIO or ADIO, Graduate Medical Education
- VP, Research Administration
- Department Chiefs representatives
- Quality, Safety, Experience representative
- Director, Nursing Practice and Development
- Compliance representative
- Director, Clinical Simulation
- Manager, Clinical Simulation
- Surgical Director, Clinical Simulation
- Manager, Supply Chain Sourcing
- Graduate Medical Education Program Directors

Simulation Locations

Corewell Health West Simulation has two state-of-the-art simulation center locations. Both are conveniently located on Grand Rapid's Medical Mile and feature the most up-to-date simulation technology.

Corewell Health Clinical Simulation Center
275 Michigan St. Grand Rapids, MI. 49503

Doug Meijer Medical Innovation Building
109 Michigan St. NE Grand Rapids, MI. 49503



Healthcare Simulationist Code of Ethics

Integrity

- Respect and cultivate an ethical organizational environment.
- Provide, as appropriate, disclosure of simulation activity design assumptions, limitations, alterations, and problems.
- Be explicit and unequivocal about the applicability of specific simulation activities and methods according to the available evidence.
- Work to eliminate unnecessary harm to humans, animals, and the environment. Honor privacy rights of individuals and organizations and uphold the confidentiality of data and outcomes as appropriate.
- Respect and acknowledge all intellectual and property rights and give due credit where appropriate.

Transparency

- Adhere to accepted standards in the documentation, analysis, design, development, implementation, and evaluation of simulation activities.
- Disclose any activities that may involve real or perceived conflicts of interest.
- Be explicit about the nature and purpose of the simulation activity, including research activities.
- Restrict simulation activities involving deception, ensuring that deception is minimized to the extent possible and does not involve the concealment of risk or intent to harm or punish.

Mutual Respect

- Honor the knowledge, skills, values, and vulnerability of learners and colleagues.
- Listen to others' points of view, seeking to understand them.
- Exhibit humane behavior, honor diversity, and foster inclusion, avoiding prejudicial treatment.
- Maximize safety and minimize physical and psychological risk.

Professionalism

- Demonstrate professional competence and attitudes.
- Exhibit continuous personal and professional development.
- Encourage and develop colleagues and new entrants to the healthcare simulation profession.
- Cultivate opportunities for the advancement of the healthcare simulation profession.

You can learn more about our simulation centers by watching videos about our department. These videos give you a look at our spaces and the resources available to support your simulation needs. [Clinical Simulation Promotional Video](#) and [Corewell Health Clinical Simulation Department](#).



Simulation Department Roles

Behind every successful simulation experience is a team of professionals with distinct yet interconnected roles. This section explores the various positions within the simulation department, detailing how each contributes unique expertise—from clinical instruction to technical operations to the development of a successful training environment and experience.

Simulation Educator

The simulation educator supports scenario development, assists with objectives, modality recommendations, project management, creates agendas, teaches skills within the RN scope.

More specifically, the simulation educator:

-  Serves as a certified instructor for BLS, ACLS, and PALS courses
-  Facilitates effective debriefing sessions to enhance learner reflection
-  Coordinates certification courses and ensures compliance with standards
-  Provides guidance in aligning simulations with learning goals and objectives
-  Develops tools to evaluate learner performance and simulation effectiveness
-  Demonstrates expertise in various simulation modalities and techniques
-  Designs and supports online learning content and platforms
-  Assists in designing and building simulation scenarios

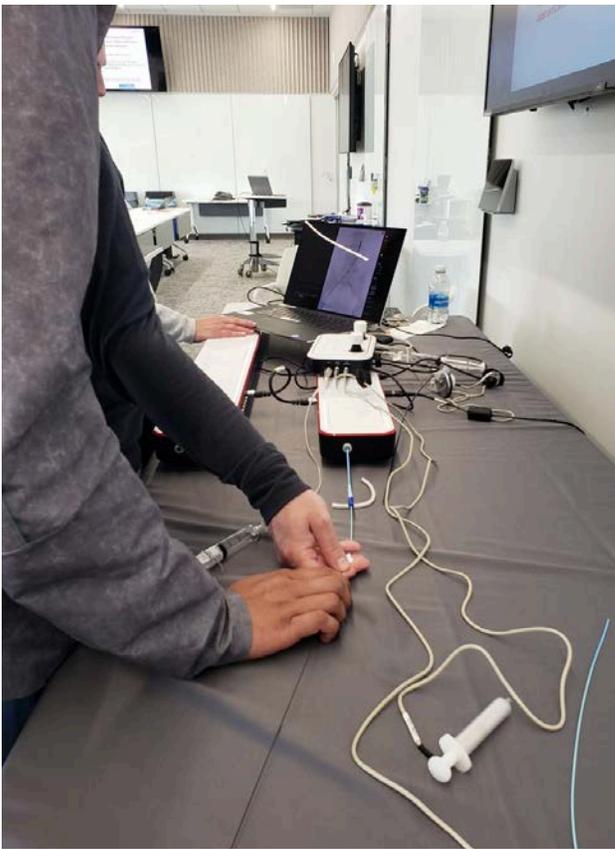


Bio Skills Coordinator

The bio skills coordinator orders cadaveric specimens and assists with aspects of bio skills related events.

More specifically, the bio skills coordinator:

-  Manages and maintains the bio skills lab space
-  Leads and coordinates events in partnership with industry stakeholders
-  Procures cadaveric specimens for advanced clinical skills training
-  Obtains inanimate specimens for use in procedural labs
-  Maintains and enforces policies and procedures related to bio skills operations



Simulation Training Specialist

The simulation training specialist operates high fidelity simulators, are experts in simulation equipment & programming, moulage, and teaches a variety of skills.

More specifically, the training specialist:

-  Demonstrates proficiency in a wide variety of simulation technologies
-  Holds a valid healthcare license relevant to their role
-  Teaches clinical and technical skills within their professional scope of practice
-  Programs simulators to align with scenario objectives
-  Operates high-fidelity simulators during training sessions.
-  Serves as an expert in simulation equipment functionality and troubleshooting
-  Prepares moulage and manikins to enhance scenario realism
-  Manages audiovisual systems to support simulation delivery and recording

Simulation Operations Coordinator

The simulation operations coordinator operates high fidelity simulators, assists with organization, scheduling and supports supply needs.

More specifically, the sim ops coordinator:

-  Sets up and tears down simulation and skills lab environments
-  Manages room reservations for simulation activities
-  Oversees equipment and supply logistics to support training sessions
-  Maintains accurate inventory records and controls stock levels
-  Tracks and manages equipment warranties and service agreements
-  Purchases simulation supplies and equipment as needed
-  Coordinates equipment rentals and borrowing processes
-  Performs routine maintenance on simulation and task trainer equipment



Simulation Partnership Process

Requesting a simulation event requires a clear understanding of our processes and procedures. The Simulation Partnership Process graphic below outlines each step involved in developing a simulated experience. We recommend downloading the graphic and referring to it as you progress through this course, as the content closely follows the same pathway.

Corewell Health Clinical Simulation Event Partnership Process



Summary

Our department is guided by a clear mission, vision, and set of values that shape our work. These principles are supported by engaged advisory boards, which provide strategic insight and ensure alignment with industry and educational standards. Together, we have the foundation for our programs and partnerships to continue to grow and improve!

Lesson Two

Defining Simulation

Simulation in healthcare is a technique that creates a situation or environment to allow individuals to experience a representation of a real healthcare event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions (Diaz-Navarrows et. al., 2024). This definition emphasizes the role of simulation in replicating real-world scenarios to enhance the skills and knowledge of healthcare professionals.

Healthcare simulations can be categorized into various types, including procedural simulations, in situ simulations, and hybrid simulations. Procedural simulations focus on specific medical procedures, in situ simulations occur in actual clinical settings, and hybrid simulations combine elements of both to provide a comprehensive learning experience.

Benefits of Simulation

Risk Reduction and Improved Patient Safety

Healthcare professionals can practice and refine their skills in a controlled environment, reducing the risk of errors in real-world clinical settings. For example, simulations can be used to train physicians in complex procedures, ensuring they are well-prepared before performing the surgery on actual patients or in procedures that are rarely seen. On the other hand, simulation can also be used to train in key policies and processes such as patient safety or error disclosure.

Cost Savings and Quality Improvement

Reduced need for real-world trials means fewer resources spent on training and fewer complications arising from inexperienced practitioners. Additionally, simulation-based training can be repeated multiple times without additional costs, making it a cost-effective solution for continuous education.

Improved Decision Making

Simulation provides insights into complex healthcare systems and processes, enabling better-informed decisions. For example, simulations can model patient flow in hospitals, helping administrators optimize resource allocation and improve patient care. This leads to more efficient operations and better patient outcomes.

Enhanced Learning

Simulation facilitates a deeper understanding of medical procedures and patients. It is a powerful educational tool that helps learners visualize and interact with complex concepts in a controlled environment. Healthcare professionals can practice emergency response, patient management, and surgical techniques, enhancing their competence and confidence and without risk.



Flexibility and Scaleability

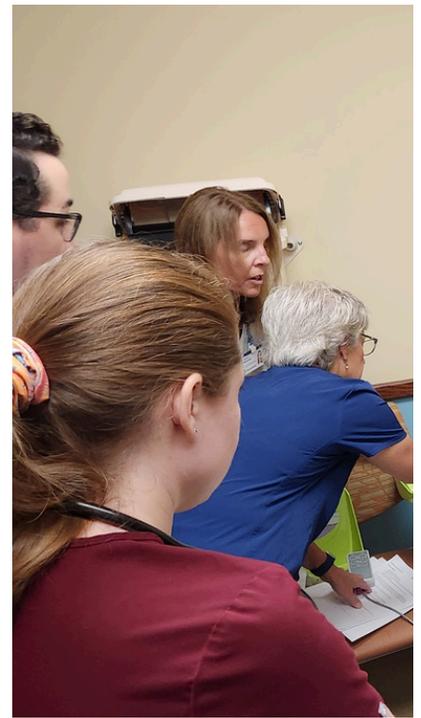
Simulations can be easily modified to test different scenarios and variables, making them highly flexible. They can also be scaled to model large and complex healthcare systems, providing valuable insights that would be difficult to get through traditional methods. This flexibility allows for tailored training programs that meet the specific needs of different healthcare professionals.

Real Time Analysis

Simulations can provide real-time data and feedback, allowing for immediate analysis and adjustments. This is particularly useful in fields such as emergency medicine and critical care, where real-time decision-making is crucial. Real-time feedback helps practitioners identify areas for improvement and refine their skills promptly.

Communication and Teamwork

Simulation in healthcare can significantly improve communication and teamwork among healthcare professionals by creating realistic scenarios. Given simulations safe and controlled environment, interprofessional teams are able to practice key skills before applying them to real-world situations.



Summary

Simulation in healthcare is a powerful tool for replicating real-world scenarios to support learning, skill development, and system improvement. It spans various formats—from procedural to in situ and hybrid simulations—offering safe, flexible, and scalable environments for practice. By enabling real-time feedback and immersive learning, simulation plays a vital role in preparing healthcare professionals for complex clinical challenges.

References

- Diaz-Navarro, C., Armstrong, R., Charnetski, M., Freeman, K. J., Koh, S., Reedy, G., Smitten, J., Ingrassia, P. L., Matos, F. M., & Issenberg, B. (2024). Global consensus statement on simulation-based practice in healthcare. *Advances in Simulation*. Link
- White, M. L., & Ambardekar, A. (2021). Overview of Simulation in Healthcare. In *Comprehensive Healthcare Simulation: Improving Healthcare Systems*. Springer.

Lesson Three

Educational Theory in Simulation Design

At the heart of simulation is curriculum and education. Curriculum, at its core, refers to the standards based sequence of planned experience where participants and learners practice in an effort to achieve proficiency in content and applied learning skills. Within this framework, simulation serves as a vital tool in the continuous development of medical professionals. However, like any educational method, the effectiveness of simulation depends heavily on its design. This lesson will explore foundational educational theories relevant to simulation and outline best practices for crafting effective learning objectives.



Adult Learning Theory

In the context of medical education and simulation, it is essential to design educational objectives and assessments with adult learners in mind. The theory of adult learning, or andragogy, emphasizes strategies that align with the unique needs of adult learners. These individuals tend to be more self-directed and are motivated when they understand the *relevance* of the content to their roles and responsibilities.

Andragogy is most closely associated with Malcolm Knowles, who identified six key characteristics of adult learners that inform effective instructional design.

- Adult learners need to know **why** they should learn something
- Adult learners need **internal motivation**
- Adult learners want to know **how** learning will help them specifically
- Adult learners bring **prior knowledge and experience** as a foundation for their learning
- Adult learners are **self-directed** and want to take charge of their learning journey
- Adult learners find the most relevance from **task-oriented learning** that aligns with their own realities

Kolb's Experiential Learning Cycle

Adult learning theory emphasizes the importance of relevance, self-direction, and practical application in education—principles that align closely with Kolb's Experiential Learning Cycle, which frames learning as a cyclical process grounded in experience, reflection, conceptualization, and experimentation.

Concrete Experience (CE): Feeling

- This stage involves directly engaging with a new situation or experience, allowing learners to connect with the material and develop a personal understanding.

Reflective Observation (RO): Watching

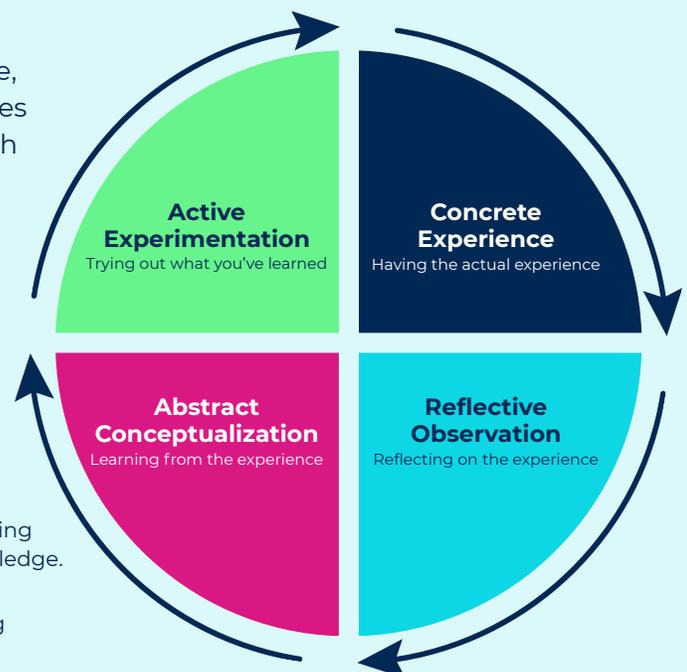
- After the experience, learners reflect on what happened, connecting their feelings and ideas about the experience.

Abstract Conceptualization (AC): Thinking

- Learners develop concepts and theories based on their observations, helping them understand the experience and make connections to existing knowledge.

Active Experimentation (AE): Doing

- Learners apply their knowledge and skills across various contexts, allowing them to test their theories and receive feedback.



Needs Assessment & Writing Learning Objectives

A needs assessment is a critical first step in designing effective simulation scenarios, as it identifies the gap between learners' current knowledge or skills and the desired outcomes of the educational activity. A needs assessment can reveal gaps from variety of sources, including identified knowledge or skill deficits, updates to clinical guidelines, protocols, or procedures, poor clinical outcomes, safety or sentinel events, the introduction of new equipment or technology, and/or challenges related to teamwork or communication.

Conducting a thorough needs assessment helps ensure that educational initiatives are grounded in actual practice or knowledge gaps rather than being driven by trendy or novel ideas encountered at conferences or research symposia. This approach keeps the focus on meaningful, evidence-based improvements rather than on implementing “cutting-edge” yet irrelevant innovations.

The insight derived from your needs assessment will directly inform the development of learning objectives.

A learning objective is learner or participant centric; it states what the participant will learn and be able to accomplish by the end of instruction. It is specific and measurable.



When starting the process of writing learning objectives, ask yourself the following questions:

- 1 What do you want participants to be able to do back at their institutions as a direct result of attending this session (e.g., simulation, workshop, course, seminar, etc.)?
- 2 What do our participants need to know or be able to do to bridge the gap between where they are today and where we want them to be tomorrow?
- 3 If participants could learn only three things in this session, what would those three things be?

S **PECIFIC**
Plan effectively with specific targets in mind.

M **EASUREABLE**
Track your progress and reevaluate along the way.

A **TTAINABLE**
Set realistic goals that are challenging but achievable.

R **ELEVANT**
Ensure the goal serves a relevant purpose.

T **IME**
Specify a deadline, monitor progress and reevaluate.

As emphasized by the Healthcare Simulation Standards of Best Practice, “all simulation-based experiences originate with the development of measurable objectives designed to achieve expected behaviors and outcomes.”

These objectives must be learner-centered and crafted with a clear understanding of who the learners are, what knowledge or skills they need to acquire, and how the simulation will translate into improved clinical practice. This includes specifying which competencies will be assessed, whether interprofessional education (IPE) is involved, and how the experience aligns with real-world clinical expectations. By grounding simulation design in both needs assessment and measurable objectives, educators can ensure that learning is targeted, relevant, and impactful.

We recommend following the SMART goal framework (outlined to the left) and utilizing Bloom taxonomy to ensure your learners are given the clearest expectations. Also be sure to set a realistic number of objectives for the length of the learning intervention. For example a realistic number of objectives for a 10 minute simulation would be 3 or less objectives.

Steps for Writing your Learning Objectives

1 Starting Phrase
Each objective should begin with the phrase “After participating in this event, attendees should be able to...”

2 Choose your Verb
Choose a verb that matches the desired level of knowledge or skill (see information on Bloom’s Taxonomy below). Verbs should indicate specific, measurable, and observable behaviors.

3 Review for Outcomes
Review each objective to make sure it is an outcome. Double check that you have not created a list of learning activity descriptions or agenda items (for example, “The participants should complete a simulation on how to perform the XYZ procedure”).
Your objectives should describe what participants should be able to know or do as a result of a learning experience.

4 Examples
Unclear Objective: The learner will understand cardiac assessments.
• This is too vague, not actionable, no criteria
Clear Objective: The learner will be able to perform a focused cardiac assessment on a patient presenting with chest pain, including auscultation, palpation, and identification of abnormal findings, with 90% accuracy.
• This is specific, measurable and achievable in the time allotted

AAMC, 2016

Bloom's Taxonomy

Bloom's Taxonomy is a hierarchical framework that classifies educational learning objectives according to levels of complexity and specificity. It consists of six categories, each representing a different stage of cognitive development. As learners deepen their understanding, they should be able to engage with increasingly complex questions and tasks. The taxonomy is often visualized as a pyramid: the base reflects foundational or novice-level thinking, while the top represents advanced, critical, and creative thinking.

CREATE Produce or create something new (e.g., design, construct, formulate)

EVALUATE Justify a decision or stance (e.g., critique, defend, judge)

ANALYZE Break info into parts to examine (e.g., compare, contrast, differentiate)

APPLY Use information in new situations (e.g., implement, solve, use)

UNDERSTAND Explain ideas or concepts (e.g., describe, summarize, interpret)

REMEMBER Recall facts and basic concepts (e.g., define, list, memorize)

On the next page, you will find a list of words that can be used to write learning objectives in each category of blooms. Be sure to identify the learning approach and outcome to appropriately select the correct classification and therefore verb.

When designing effective learning objectives, it's important to choose action verbs that align with the learner's level of development. The image below provides a list of commonly used, measurable verbs categorized by Bloom's Taxonomy. These verbs help ensure that objectives are appropriately challenging and clearly assessable based on the intended learner population. You can click the image to enlarge.

REMEMBER

Arrange · Define · Describe · Duplicate · Identify · Label · List · Match · Memorize · Name · Order · Outline · Recognize · Relate · Recall · Repeat · Reproduce · Select · State

ANALYZE

Analyze · Appraise · Breakdown · Calculate · Categorize · Compare · Contrast · Criticize · Diagram · Differentiate · Discriminate · Distinguish · Examine · Experiment · Identify · Illustrate · Infer · Model · Outline · Point out · Question · Relate · Select · Separate · Subdivide · Test

UNDERSTAND

· Classify · Convert · Defend · Describe · Discuss · Distinguish · Estimate · Explain · Express · Extend · Generalized · Give example(s) · Identify · Indicate · Infer · Locate · Paraphrase · Predict · Recognize · Rewrite · Review · Select · Summarize · Translate

EVALUATE

· Appraise · Argue · Assess · Attach · Choose · Compare · Conclude · Contrast · Defend · Describe · Discriminate · Estimate · Evaluate · Explain · Interpret · Judge · Justify · Predict · Rate · Relate · Select · Summarize · Support · Value

APPLY

Apply · Change · Choose · Compute · Demonstrate · Discover · Dramatize · Employ · Illustrate · Interpret · Manipulate · Modify · Operate · Practice · Predict · Prepare · Produce · Relate · Schedule · Show · Sketch · Solve · Use · Write

CREATE

Arrange · Assemble · Categorize · Collect · Combine · Comply · Compose · Construct · Create · Design · Develop · Devise · Explain · Formulate · Generate · Plan · Prepare · Rearrange · Reconstruct · Relate · Reorganize · Revise · Rewrite · Summarize · Synthesize · Tell · Write

Summary

Bloom's Taxonomy provides a hierarchical framework for categorizing learning objectives, from basic knowledge recall to complex creation and evaluation tasks. Together, these theories support the development of simulations that are learner-centered, outcome-driven, and aligned with real-world clinical practice.

Foundational educational theories and frameworks are essential for designing effective clinical simulations. It is important to write clear, measurable learning objectives to guide both instruction and assessment. Grounded in adult learning theory (andragogy), tailoring educational experiences to adult learners, who are self-directed, goal-oriented, and motivated by relevance to their professional roles is key to any successful simulation.

To learn more about developing clear learning objectives, simulation curriculum and to review our simulation scenario template, [check out our online resources.](#)

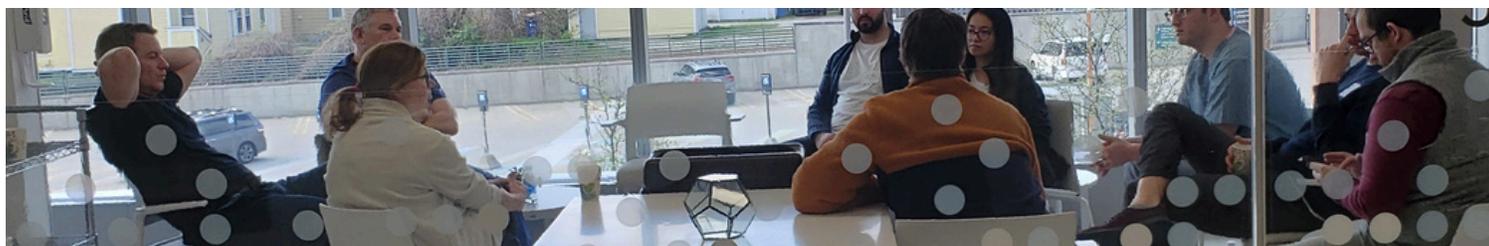


Lesson Four

Designing Effective Simulations

Clinical simulation is one of our most powerful tools in healthcare—it provides opportunities for learners to practice skills, gain procedural confidence and work as a team in a safe and realistic environment. However, having the most effective educational experience comes down to making the right educational choices in your simulation design. Choosing the most effective simulation modality—such as manikins, standardized patients, virtual reality, or task trainers—is key to meeting learning goals and key performance outcomes.

In this lesson, we will cover the basics of simulation case design, including how to structure scenarios, manage cognitive load, and use tools like checklists and templates. We hope this will help facilitators feel better prepared to create effective, engaging simulations that support learner success.



Simulation Methods

Clinical simulations can be delivered through various methods. They may consist of a single event or multiple sessions, and can take place in different or unique locations, depending on the learning objectives

01

InSitu Simulation

Taking place in the actual clinical environment

02

Mobile Simulations

Taking simulation on the road

03

Bootcamps

Short but intense, prepares learners with the basic foundation

04

Procedural Training

Simulations to teach and practice specific medical procedures

05

Hybrid Simulations

More than one type of simulator is used (e.g., manikin and SP)

06

Immersive Learning

Interactive environment w/ experiential learning

07

Continuum of Care

Sequential scenarios that span time in a continuum of care

08

Just-In-Time Training

Refresher just before the learner performs the intervention

Simulation Modes

Clinical simulation encompasses a range of modes, each offering unique ways to support hands-on learning and skill development.

Human Patient Simulators

High and Low fidelities with various functionalities

Task Trainers

Focus on specific tasks for skills training; novice to advanced

Standardized Patients

Trained individual who consistently portrays a real case to teach various process skills

Virtual Reality

Computer-generated environment, providing interactive and realistic experiences

Bio Skills

Hands-on practice using cadaveric or synthetic tissue models

Simulation Scenario Design

You should use a simulation design template. [Corewell Health Clinical Simulation's scenario template](#) is organized to cover each of the essential elements listed below. Using an evidence-based simulation template helps organize the key case information for use by all members of the design, operation, and facilitation team. Your scenario template should include the following elements:

Your scenario template should include the following elements

- Scenario title
- Scenario description & case background (for learners)
- Scenario synopsis for simulation educators
- Simulation case context development which is a rough draft or story board of the case stages
 - The simulation case should include the case introduction, what to expect once participants start engaging the case, and how you expect it to conclude. You should review your case and continue to add key learner, patient, or operational details.
 - Often scenario design is done in an iterative process and requires multiple meetings/emails to create a compelling, relevant, and realistic scenario.
- You should also include “Scenario life savers” which are embedded participant directions to prompt or direct learners (e.g., manikin voice, phone call, etc.) to continue to move the case along



Be mindful of cognitive load which is the mental effort required to process information. Expertise relies on long-term memory, but if a simulation becomes too complex—especially with added elements to increase realism—it can overwhelm learners with too much information and sensory input. This overload can distract from learning, particularly the kind of learning meant to transfer into real-world practice.

Simulation Event Design Process

The general process for designing simulation events is outlined below. Read each section to learn more about the best practices for simulation design.

Initial Meeting

Consult/intake form, conduct needs analysis for learning gaps.

Pilot Test

Do a dry run and revise as needed, then the final simulation scenario is completed.

After Action Review

1 or 2 weeks after the event, a post-event review is conducted, including a reflective debrief, evaluation analysis, and incorporating 360 feedback.





Standardized Patients in Simulation

A **Standardized Patient** (SP) is defined by the [Society for Simulation in Healthcare](#) as a person who has been carefully trained to simulate an actual patient (or participant) so accurately that even a skilled clinician cannot detect the simulation. SPs are used to enhance teaching and provide critical performance evaluation, often contributing feedback during the simulation debriefing.

SPs are commonly used to train participants in essential clinical processes such as history taking, physical examination, focused assessments, and clinical reasoning, including the development of differential diagnoses based on patient presentation. Beyond clinical skills, SPs are also valuable for training in interprofessional communication, delivering difficult news, informed consent, and end-of-life conversations.

One of the key benefits of using SPs is their ability to create high-fidelity medical scenarios while also offering patient-centered feedback on non-technical skills. These include empathy, rapport building, clarity of communication, active listening, professionalism, and more. SPs can also be paired with a task trainer in some cases to add a layer of realism that may otherwise not be included.

However, for SP-based simulations to be effective, it is essential to select individuals who can deliver high-fidelity performances, demonstrate strong verbal communication, recall case-specific details, and engage in well-timed improvisation (Hiller, Williams, & Chidume, 2023). Thus, when utilizing SPs, plan to have multiple meetings and training sessions with the team to practice and prepare appropriately.

Simulation Design Aids

Below is a list of tools that help structure and plan simulation scenarios which will help ensure consistency and alignment with learning objectives.

Checklists	Step-by-step lists used to guide participants or evaluators through tasks or assessments during a simulation
Scripts	Written outlines for standardized patients or facilitators with dialogue, symptoms, and behaviors to ensure consistency
Rubrics	Structured tools used to assess learner performance based on specific criteria and learning outcomes
Flowcharts	Visual diagrams that map out the sequence of events or decision points in a simulation scenario
Storyboard	Visual planning tools that outline the timeline, actions, and key events of a simulation scenario
Moulage	The use of makeup, props, or prosthetics to create realistic injuries or medical conditions for enhanced realism
Props/Supplies	Items and inventories used to set up the simulation space to resemble a real clinical environment
Prebrief Tools	Resources used to prepare learners before a simulation, including objectives, expectations, and psychological safety guidelines
Debrief Tools	Structured guides or frameworks used after a simulation to facilitate reflection, feedback, and learning
Ancillary Items	Supporting materials such as lab results, X-rays, or medical records that add realism and complexity to the scenario

Summary

Designing effective simulation-based learning experiences requires thoughtful integration of methods, modes, and scenario elements. By aligning learning objectives with realistic challenges, selecting appropriate modalities (such as high-fidelity manikins, standardized patients, or virtual platforms), and using structured design aids, educators can craft immersive and impactful scenarios. The design process ensures that each simulation is purposeful, learner-centered, and adaptable to various clinical contexts.

Lesson Five

Preparation and Prebriefing



Preparation before a medical simulation is crucial because it ensures that participants can maximize learning, improve performance, and provide safe patient care. Here are some key reasons why preparation is important

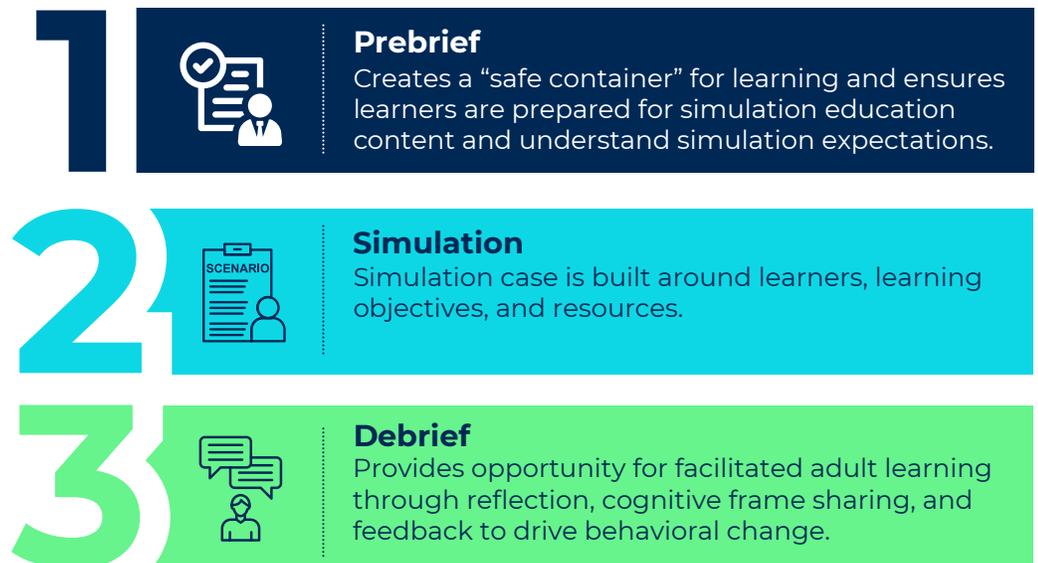
- 1. Enhances Learning Outcomes:** Understanding the objectives, clinical scenario, and expected skills beforehand allows participants to focus on critical thinking and decision-making during the simulation.
- 2. Builds Confidence:** Familiarity with the simulation environment, equipment, and procedures reduces anxiety and allows for more effective participation.
- 3. Improves Teamwork and Communication:** Pre-simulation briefings help teams understand roles, establish effective communication strategies, and work cohesively under pressure.
- 4. Reinforces Clinical Knowledge and Skills:** Reviewing relevant medical concepts, protocols, and guidelines ensures participants can apply their knowledge correctly during the simulation.
- 5. Promotes Realistic and Effective Performance:** Knowing what to expect allows participants to engage fully in the scenario without hesitation, mirroring real-world clinical situations.
- 6. Ensures Safety and Reduces Errors:** Practicing in a controlled setting with proper preparation helps identify potential mistakes before they occur in actual patient care.
- 7. Optimizes Debriefing and Reflection:** A well-prepared simulation allows for meaningful discussions afterward, reinforcing lessons learned and improving future performance.

Proper preparation ensures that medical simulations are not just exercises but valuable learning experiences that enhance patient safety and clinical excellence.

Phases of Simulation

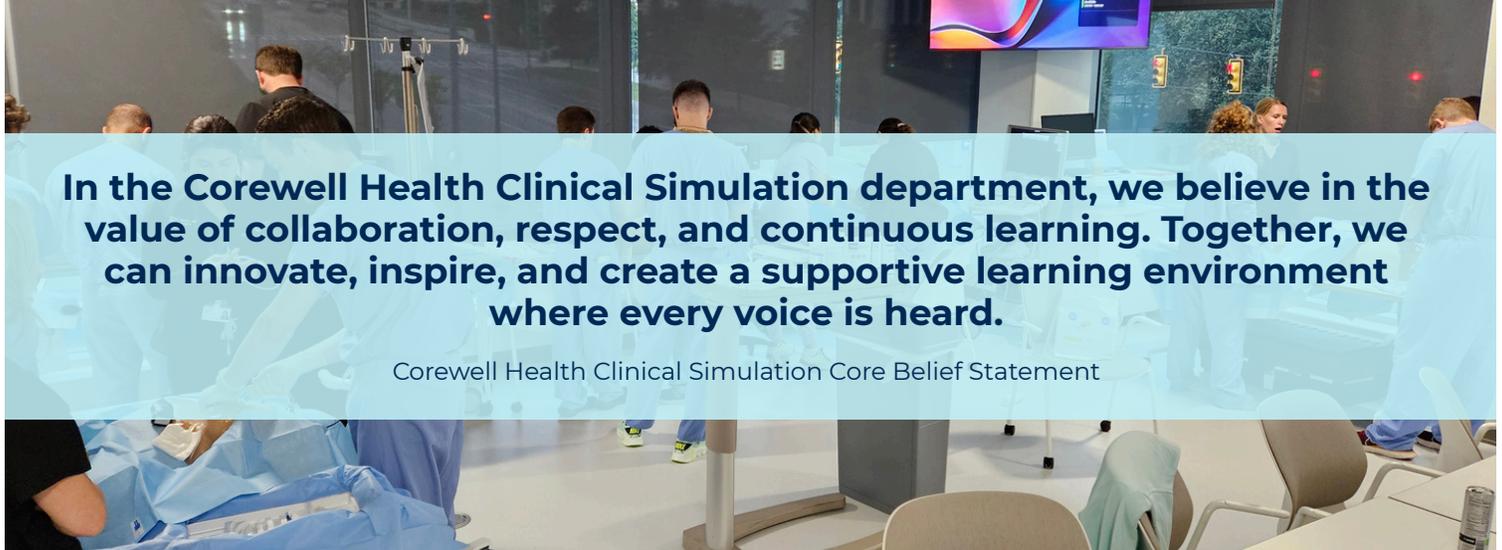
The [graphic below demonstrates](#) the three key phases of a successful simulation-based education experience: the prebrief, simulation, and debrief. For this lesson, we will focus on the key aspects of prebriefing.

By definition the Prebrief is an information or orientation session held prior to the start of a simulation activity in which instructions or preparatory information is given to the participants. Prebriefing establishes psychological safety and sets the stage for a meaningful clinical experience. Creating this safe learning environment supports participants in achieving scenario objectives.



Psychological Safety in Simulation

Simulation can be very stressful. To minimize learner distress during simulation creating this psychologically safe environment is key. According to the book Defining Excellence in Simulation Programs, psychological safety is defined as “a feeling within a simulation-based activity where participants feel comfortable participating, speaking up, sharing thoughts, and asking for help without concern for retribution or embarrassment” (p. 86). This environment of support, curiosity, and respect is crucial for effective learning and team-based simulations.



In the Corewell Health Clinical Simulation department, we believe in the value of collaboration, respect, and continuous learning. Together, we can innovate, inspire, and create a supportive learning environment where every voice is heard.

Corewell Health Clinical Simulation Core Belief Statement

Creating a Psychologically Safe Environment

Creating a psychologically safe environment is a process that begins as you prepare for simulation during the pre-brief and maintained throughout the simulation and debrief.

Emphasize Learning

Frame the simulation as a learning opportunity rather than a performance evaluation, encouraging participants to focus on growth and improvement.

Establish Trust

Facilitators should be approachable, empathetic, and create a welcoming atmosphere where learners feel comfortable expressing their thoughts and feelings.

Open Communication

Encourage participants to speak up, ask questions, and share their experiences without fear of judgment.

Give Control

Allow learners to take ownership of their learning by offering choices and opportunities for self-reflection.

Focus on Strengths

Highlight positive aspects of their performance and encourage them to build upon their existing skills.

Promote Curiosity

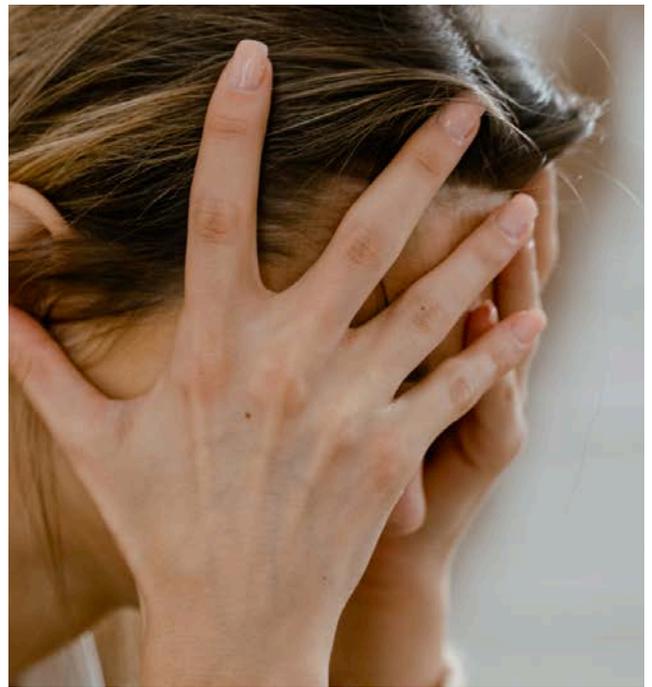
Reframing challenges as opportunities for learning and growth can motivate learners to seek strategies for mastering the situation.

Recognize and Validate Distress

Part of maintaining a psychologically safe simulation environment is identifying distress signals in your learners and address them anytime before, during and/ or after the simulation as appropriate for the situation.

- **Identify Distress Signals:** Be aware of both verbal and nonverbal cues that may indicate distress, such as crying, anger, avoidance, or withdrawal.
- **Acknowledge Feelings:** Validate the learner's emotions, letting them know that it's okay to feel overwhelmed or uncomfortable.
- **Offer Support:** Provide reassurance and let them know that you are there to help them navigate the situation.

Simulation will not be effective if a learner is distracted, exhausted, or not in a mental place to focus on learning and growth.



Prebriefing Best Practices

A clinical simulation prebrief includes several key components to prepare participants for the simulation. These components focus on setting clear expectations, providing necessary information, and establishing a psychologically safe environment. This phase is crucial for optimizing learning, promoting effective teamwork, and ensuring a focused and immersive simulation experience.

- **Welcome:** Welcoming learners and conducting introductions in a clinical simulation promotes a positive and safe learning environment, reduces anxiety, and sets the stage for a successful learning experience which fosters engagement and collaboration.
- **Basic Assumption:** The basic assumption reinforces the core values of simulation practice, emphasizing that everyone wants to improve and that mistakes are opportunities for learning, not punishment. This helps alleviate anxiety and encourages participants to actively engage in the simulation and subsequent debriefing. Be honest and transparent sharing how learners will or will not be evaluated during the simulation.
- **Learning Objectives:** It is essential learners understand the purpose and desired outcomes of the exercise. This helps guide their learning, clarifies expectations, and facilitates a more focused and productive simulation experience. Additionally, clear objectives allow for better evaluation and debriefing, enabling learners to reflect on their performance and identify areas for improvement.
- **Orientation:** Providing simulation orientation and logistics before a simulation helps learners feel prepared, comfortable, and engaged, ultimately enhancing the learning experience. It is important to clarify the roles and responsibilities of all participants, including learners & facilitators.
- **Fiction Contract:** Establishing a mutual understanding between educators and learners about the realism of the simulation and what can and cannot be simulated.
- **Debrief:** Inform learners that there will be ample time for a debrief after the simulation which will help facilitate individual and team learning, promote reflection and help identify areas for improvement. Our goal in debriefing is always to achieve a deeper learning, improve clinical skills and increase confidence in applying knowledge one has to real-world clinical situations.
- **Set Simulation Boundaries:** Familiarize participants with the simulation environment, equipment, and manikin.
- **Other considerations:** It may be necessary to provide learners with opportunities to review relevant information/education or practices skills before the simulation to allow what they “know” or “have learned” to be practiced during the simulation vs. introducing new learning content for the first time.

You can see these phases summarized on the infographic on the next page.

Summary

Effective simulation begins with thorough preparation and a structured prebriefing. This phase ensures the environment, equipment, and roles are ready, while also setting expectations, establishing psychological safety, and orienting learners to the scenario. A strong prebrief builds trust, encourages engagement, and lays the foundation for meaningful learning. To see an example of a prebrief, [follow this link or the QR code below to a video by medical educator Heather Blockland](#).

Simulation Prebrief

To Promote Psychological Safety & Intellectual Bravery



WELCOME

Welcoming learners and conducting introductions



BASIC ASSUMPTION

Emphasize that everyone wants to improve and that mistakes are opportunities for learning, not punishment



LEARNING OBJECTIVES

Outline the purpose and desired outcomes of the exercise



ORIENTATION

Clarify the roles and responsibilities of all participants, including learners & facilitators



FICTION CONTRACT

An understanding between educators and learners about the realism of the simulation



DEBRIEF

Inform learners that there will be ample time for a debrief after the simulation



BOUNDARIES

Familiarize participants with the simulation environment, equipment, and manikin

Graphic adapted from CHI and RCSI



Prebrief video

Lesson Six

Facilitation and Delivery

We know that clinical simulation is a powerful educational tool that replicates real-world healthcare scenarios in a controlled environment. At the heart of this process is the simulation facilitator—an individual who guides learners through simulated experiences with structure, purpose, and empathy. This lesson introduces the foundational responsibilities of facilitators and operators, highlighting the importance of creating a psychologically safe and respectful learning space for all participants.

The Simulation Facilitator

A **Simulation Facilitator** is an individual that helps bring about an outcome by providing indirect assistance, guidance or supervision. The clinical simulation department uses facilitators and educators to run simulation sessions and debrief. There are several educational tools a facilitator can use to improve the effectiveness of a clinical simulation for the participants. In the section below, we detail the key elements of successful facilitation.

Time management

It is the responsibility of the facilitator to keep the event on track and the various educational experiences running smoothly. It is particularly important to leave enough time to do a substantive debrief of the simulation to improve learning outcomes.

Stay in your role, if you have one

While facilitators often take on the role of observers or provide key information when requested, they may also take on a dual role as a confederate, such as a nurse or care team provider within the scenario. In these cases, it is important that the facilitator stay in their role to maintain fidelity and realism for the participants.

Ensure equipment, manikins, and props are ready and realistic

Realism is a cornerstone of effective simulation. When learners are immersed in lifelike scenarios, their engagement and retention improve significantly. As the facilitator, you are responsible for ensuring the equipment is functioning properly and the situation feels as authentic and real as is possible given the space and tools. Moulage use to enhance realism will be covered in more detail at the end of this lesson.

Observation and intervention

Facilitators should allow participants to lead the simulation, encouraging independent decision-making. However, if progress stalls, it may be necessary to step in with predetermined or spontaneous cues to guide or redirect learners toward the intended outcomes. Interventions may include information such as vital signs, lab results, or patient information. Unplanned interventions should be subtle and supportive, with any challenges or facilitator input explored further during the debriefing session.

Active listening

In addition to fostering a supportive environment, it's essential to closely observe team dynamics and decision-making throughout the simulation. Communication and collaboration are key areas to explore during debriefing, and by actively listening, you can offer valuable insights or pose thoughtful questions that prompt participants to reflect critically on their actions and interactions.

Promote a safe learning environment

The facilitator plays a crucial role in creating a safe learning environment. Facilitators should encourage open communication and promote respect among participants. Strategies include: setting clear expectations, supporting learners through mistakes without judgment, and guiding reflection in a constructive, non-threatening manner.

NOTE: If both an educator/instructor and a facilitator are assigned to the simulation, it is important to plan ahead and clearly define who will take the lead during the session. This ensures smooth coordination and clarity in roles throughout the simulation. When both roles are involved, the lead educator should take responsibility for the prebrief and debrief components of the event. Responsibilities include setting expectations, guiding critical reflection and addressing the educational learning objectives.

Delivery and Communication Considerations

The way you communicate and the nonverbal choices you make as the facilitator can have a big impact on the learning environment and the comfort of the participants during the simulation. A few things to keep in mind related to delivery during a clinical simulation include:

- **Tone of voice:** The tone of voice and language you choose can impact the message. As the facilitator, maintain a calm, supportive tone. Participants are already on edge about judgement and will struggle if it seems their educator is upset, annoyed, or angry about their performance. Since simulation is a learning tool, mistakes will happen so we need to support the educational aspects of the learning modality.
- **Nonverbal body language:** just like with tone, use open, non-threatening body language. This helps create psychological safety and encourages learner engagement.
- **Adaptability:** Be ready to adjust the scenario based on learner actions or needs. Also be open to questions, feedback, or concerns from the learners. As this is for educational purposes, you may have participants who have a lot of questions and want to explore ideas more deeply.
- **Pay attention to team dynamics:** as mentioned above, the facilitator needs to observe for interpersonal communication concerns or if an individual shows signs of distress.



Enhancing Realism

Realism is a cornerstone of effective simulation. When learners are immersed in lifelike scenarios, their engagement and retention improve significantly. The use of moulage—the art of applying makeup and props to simulate injuries and conditions—enhances the authenticity of training experiences

Moulage can be used to simulate a wide range of conditions, from simple cuts and bruises to more complex injuries like open fractures, burns, and even skin conditions. It can range in complexity from basic to highly advanced. Simple moulage may involve the use of pre-made wounds or basic makeup techniques, while more complex applications incorporate advanced special effects and detailed artistry to simulate realistic injuries and medical conditions.



Separation of Simulation Equipment



You can review more about the expectations of simulation equipment use in this [linked policy](#).

Summary

Facilitation is the cornerstone of effective clinical simulation. Skilled facilitators guide learners through realistic scenarios with structure, empathy, and intention, ensuring that each experience is psychologically safe, respectful, and aligned with learning goals.

Maintaining a clear boundary between simulation and clinical practice is essential for patient safety and operational integrity. It is the facilitators job to ensure these expectations are met.

- Equipment and supplies used for insitu simulations are identified by a label indicating “not for human use”.
- Checklist are utilized following insitu simulations to ensure all simulation supplies and equipment brought into the clinical space are accounted for and removed.
- Simulation-only equipment should be stored separately from clinical supplies, ideally in designated simulation storage areas.
- Any breach in separation should be reported and reviewed to prevent recurrence.

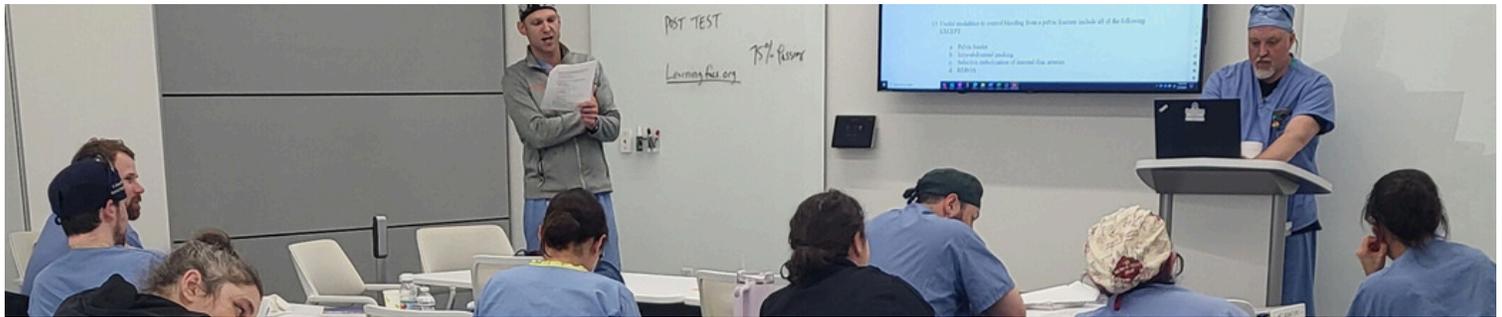
Lesson Seven

Effective Simulation Debriefing

A crucial step in clarifying and consolidating the learning gained from simulations in healthcare is debriefing. According to [Edwards et al in 2021](#), “debriefing is a directed, intentional conversation that can be used for knowledge or skill attainment, or to answer questions about threats to patient safety and patient care based on a recent event or a hypothetical situation.” Debriefing is an important strategy for learning about and making improvements in individual, team, and system performance. In the debriefing, participants explore and analyze their actions, thought processes, emotional states, and other information to foster improved performance in real situations.

Debriefing typically happens after an event, activity or project with a focus on exploratory peer discussion around what happened, why it happened, and how it can be improved in the future. This discussion involves reflection and analysis to understand the experiences and learn from them.

Debriefing in healthcare simulation focuses on collective reflection of a shared experience with a group of participants.



Feedback vs. Debriefing

Debriefing is different than feedback. The goals, approach and outcome of each of the critical components of learner education differ, thus it is important to recognize the critical function of each.

Key Differences between Feedback and Debriefing

- Feedback is traditionally a one-way conveyance of information to a learner
- Feedback often focuses on the gap between the participant’s performance and a standard, often with suggestions on how to improve
- Feedback is the information and guidance provided to the participant based on observation and evaluation of their performance

Both debriefing and feedback are intended to promote learning, improve skills, and foster positive changes in behavior and attitude.

Why Debriefing Matters

Validation

An opportunity for participants to express their emotions, thoughts, or feelings, and to receive support and validation from others.

Improvement

Enables participants to identify what worked well and what could be done differently.

Application

Transfers learning to the real-world context and reinforces the best practices and standards of care.

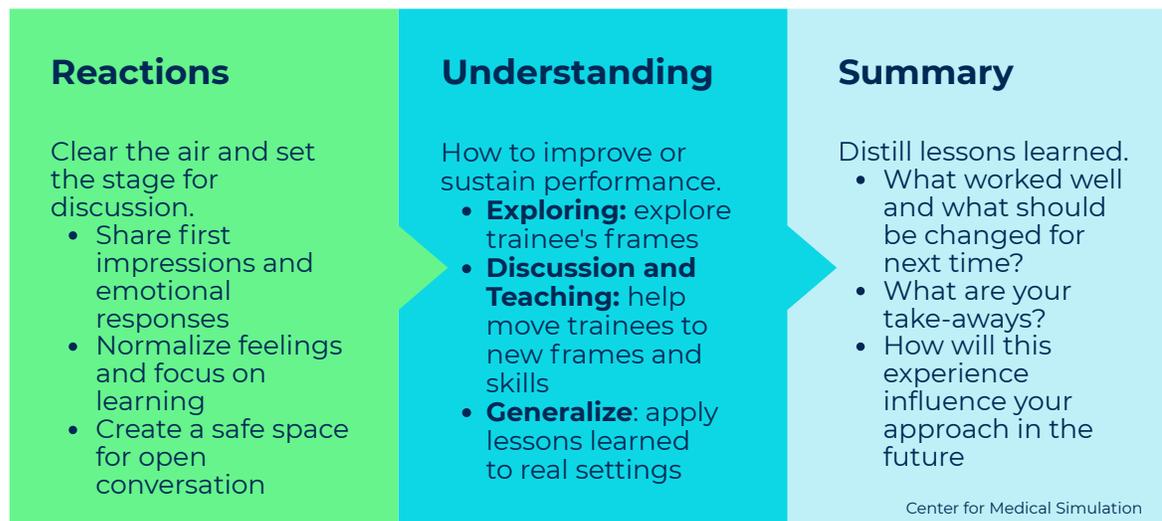
Clarification

Closes the gap between what was expected and what actually happened.

The Phases of Debriefing

The quality of debriefing depends largely on how well the facilitator and the participants are prepared for the process. The facilitator should have a clear objective, a structured framework, and a set of criteria for debriefing.

All forms of debriefing have a shared structure that involves setting the stage followed by phases including description or reactions, analysis, and application. We will outline a few popular approaches to clinical debriefing, but the Center for Medical Simulation summarized the 3 key phases of debriefing in the graphic below.

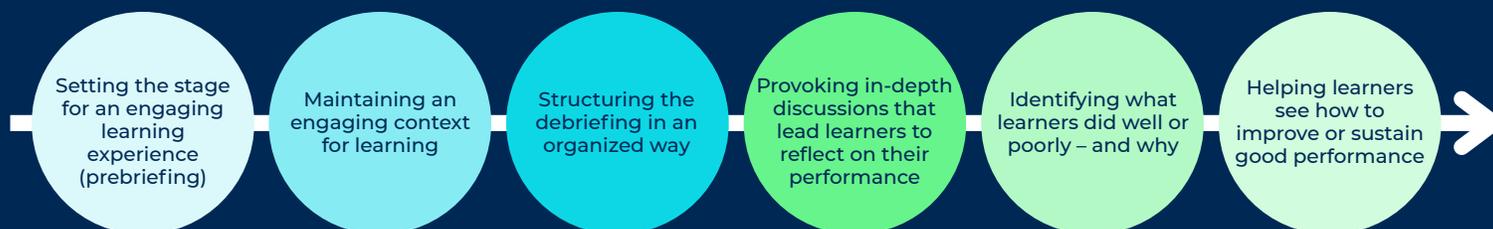


Models of Debriefing

- **The Debriefing Assessment for Simulation in Healthcare (DASH):** This model is a highly recognized framework designed to evaluate and guide the quality of debriefing in simulation-based education focused on 6 key elements. It was developed by the Center for Medical Simulation affiliate of Harvard University.
- **The Plus-Delta Model:** This straightforward model involves participants identifying what went well (Plus) and what could be improved (Delta). It's simple and encourages self-reflection.
- **The PEARLS Model (Promoting Excellence and Reflective Learning in Simulation):** This model integrates multiple debriefing strategies, including learner self-assessment, focused facilitation, and directive feedback, to cater to different learning objectives and contexts.
- **The 3D Model (Defusing, Discovering, and Deepening):** This model involves a three-phased approach where the facilitator first helps participants defuse any strong emotions, then discover insights from the simulation, and finally deepen their understanding through analysis and discussion.
- **The GROW Model (Goal, Reality, Options, Will):** Originally a coaching model, it has been adapted for debriefing in simulation. It involves setting a goal for the debriefing, understanding the reality of what happened, exploring options for improvement and committing to actionable steps.
- **The After-Action Review Model:** An after-action review (AAR) is a process of analyzing a situation, reviewing the actions taken, and determining if there's anything they could've done differently to improve that situation.

These models are pictured below and on the next page.

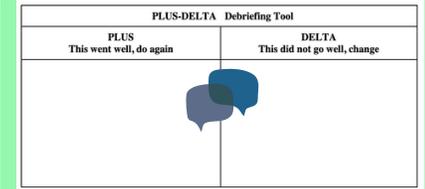
THE DEBRIEFING ASSESSMENT FOR SIMULATION IN HEALTHCARE (DASH) MODEL



THE PEARLS DEBRIEFING MODEL

	Objective	Task	Sample Phrases
1	Setting the Scene Create a safe context for learning	State the goal of debriefing; articulate the basic assumption*	"Let's spend X minutes debriefing. Our goal is to improve how we work together and care for our patients." "Everyone here is intelligent and wants to improve."
2	Reactions Explore feelings	Solicit initial reactions & emotions	"Any initial reactions?" "How are you feeling?"
3	Description Clarify facts	Develop shared understanding of case	"Can you please share a short summary of the case?" "What was the working diagnosis? Does everyone agree?"
4	Analysis Explore variety of performance domains	See backside of card for more details	Preview Statement (Use to introduce new topic) "At this point, I'd like to spend some time talking about [insert topic here] because [insert rationale here]"
			Mini Summary (Use to summarize discussion of one topic) "That was great discussion. Are there any additional comments related to [insert performance gap here]?"
Any Outstanding Issues/Concerns?			
5	Application/Summary Identify take-aways	Learner centered ----- Instructor centered	"What are some take-aways from this discussion for our clinical practice?" ----- "The key learning points for the case were [insert learning points here]."

*Basic assumption. Copyright © Center for Medical Simulation. Used with permission. Reproduced with permission from Academic Medicine. Originally published as Bajaj K, Meqarichian M, Thoma B, Huang S, Eppich W, Cheng A. The PEARLS Healthcare Debriefing Tool. Acad Med. 2017. [Post Author Correction] <http://journals.lww.com/academicmedicine/FullText.aspx>.



PLUS DELTA MODEL

- Identify and agree on what happened, starting with junior members of the team
- Identify what the team did well
- Ask, "What could we have done differently?" Look at any processes or resources that affected the outcome
- Identify lessons learned and the actions that might arise from the process

AFTER-ACTION REVIEW MODEL

A process of analyzing a situation, reviewing the actions taken, and determining if there's anything they could've done differently to improve that situation



THE 3D MODEL

- Defusing**
- 1 • Allow the learner to "vent" emotions, struggles, and medical sticking points
- Discovering**
- 2 • Analyze and evaluate performance through reflection
 - 2 • Discover mental models or rationales for specific behaviors
 - 2 • Identify gaps and matches between existing and targeted mental models
- Deepening**
- 3 • Apply lessons from the simulation/event; make connections to practice
 - 3 • Cue and create analogies to clinical practice
 - 3 • Discuss how the simulation performance relates

THE GROW DEBRIEFING MODEL

STEP 2: REALITY

- What were the underlying causes of your results?
- Ask "why" repeatedly to uncover root cause.

STEP 4: WILL

- Establish clear targets and a schedule for implementing the changes.
- Determine what resources are needed and who can provide support.



STEP 1: GOAL

- What were you trying to achieve?
- Where did you hit or miss your objectives?



STEP 3: OPTIONS

- Consider different solutions to address the identified issues.
- Consider the pros and cons of each solution.



Summary & Tools for Effective Debriefing

To learn more about best practices in simulation debrief, [please watch the video snippet below by Clinical Simulation Educator Tracy Cramer](#). We also have an [example of debriefing best practices by following this link](#).



Effective Debriefing video



Debriefing example video

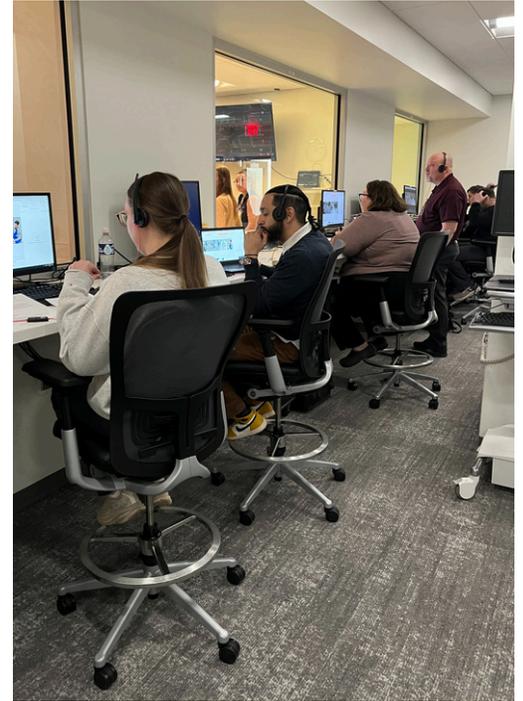
Lesson Eight

Evaluating Learning & Performance

Effective evaluation is essential for confirming that clinical simulation not only replicates real-world scenarios but also fosters meaningful learning. This lesson will explore strategies and tools for assessing both learner performance and the overall impact of simulation experiences, empowering facilitators to provide targeted feedback and support continuous learning.

There are many reasons we evaluate participants in clinical simulation:

- 01 Evaluation ensures learning objectives are being met.
- 02 Evaluation gives an opportunity to provide feedback for future learning and development.
- 03 Evaluation supports broader curriculum improvements in medical education.
- 04 Evaluation is necessary for accreditation, research or for continued justification for programs/programmatic needs.
- 05 Evaluation can highlight if issues are happening because of learner deficits or if there are organization process problems.



Types of Evaluations

Selecting the appropriate form of evaluation in clinical simulation depends on the purpose of the assessment, namely whether the simulation event is meant to support learning or to measure competence. Understanding the distinction between formative and summative assessments helps educators choose tools that align with their instructional goals and learner needs.



Formative Assessment

The purpose of **formative assessment** is to monitor learner progress and provide ongoing feedback. It is an assessment for learning and improvement. In clinical simulation we often conduct formative assessments with the use of observational checklists, debriefing discussions, or peer feedback.

Summative Assessment

The goal of **summative assessment** is to evaluate your learner at the end of a learning cycle by comparing it against a standard or benchmark. It is an assessment for competence and proficiency. In clinical simulation, we often conduct summative assessments with the use of Objective Structured Clinical Examinations (OSCEs), grading or scoring rubrics, or pass/fail experiences.

What Can be Evaluated in Clinical Simulation

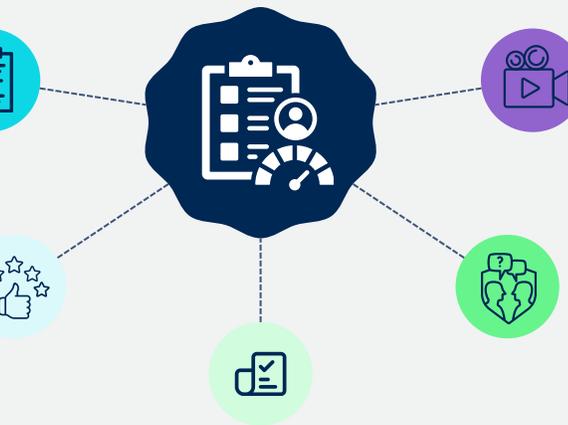
Knowledge	Pre- and post-simulation event knowledge or performance tests, such as Multiple Choice Questions (MCQs) to assess test recall, application, and problem-solving skills related to specific cases.
Skills	Evaluate proficiency performing procedures or assessments on a manikin or standardized patient, utilizing an organizational or discipline related checklist to assess accuracy.
Behaviors and Attitudes	One could evaluate communication skills, professionalism, collaboration, teamwork, interprofessionalism.
Clinical Reasoning	Assess a learner's ability to make decisions during complex medical scenarios, conduct a differential diagnosis, or manage a code situation.
Processes or Policies	Role management or adherence to policies and procedures (i.e., informed consent, error disclosure, procedural time out).

Tools for Assessment

There are a variety of tools you can use to properly assess your learners during a clinical simulation, each designed to evaluate different aspects of performance, decision-making, and teamwork. Choosing the right assessment tools helps make sure feedback is meaningful and aligned with your learning objectives.

Checklists
Checklists are structured tools that list specific actions or behaviors expected during a simulation (e.g., [OSCE Checklists](#), [Simulation Effectiveness Tool – Modified \(SET-M\)](#)).

Rating Scales
Rating scales provide a more holistic or global assessment of performance, often using Likert-type scale (e.g., [Global Rating Scale \(GRS\)](#), [Clinical Performance Tool \(CPT\)](#), [Non-Technical Skills for Surgeons \(NOTSS\)](#), etc.)



Behavioral Assessment Tools
These tools focus on non-technical skills such as communication, teamwork, and leadership (e.g., [TeamSTEPS Team Performance Observation Tool](#), [Behavioral Assessment Tool \(BAT\)](#), [Interprofessional Collaborator Assessment Rubric \(ICAR\)](#), etc.)

Video Review
Video-based tools allow for reflective analysis of simulation performance. Corewell Health has access to LearningSpace to record video for future analysis.

Debriefing
Debriefing tools that help evaluate the quality and effectiveness of post-simulation discussion. You can review our lesson on debriefing for key models and approaches for a successful debriefing conversation.





Mitigating Bias in Assessment

Recognizing bias in evaluation is essential to ensure fair and accurate assessment of learners during clinical simulation. Unconscious biases can influence how performance is interpreted, potentially leading to inconsistent feedback and missed opportunities for growth. By being aware of and addressing these biases, educators can create a more equitable and supportive learning environment.

Use goals & objectives: Refer back to goals and objectives to be sure you are being fair & equitable.

Avoid assumptions: Evaluate based on demonstrated skills and learning objectives, not personal traits or behaviors unrelated to performance.

Language use: Use the same language as competencies, evaluations, or milestones.

Reflection: Regularly reflect on your own biases and assumptions and seek professional development to continually improve.

Evaluating the Simulation Team & Simulation Design

In addition to learner evaluation, it is also essential to solicit feedback about the proficiency of the simulation facilitators and simulation fidelity. Questions regarding the team and the design of the simulation activity can help improve the quality of the experience and ultimately the learning outcomes.

Ideally you should solicit feedback on the following elements:

- The efficacy of the simulation pre-brief and debriefing processes
- Clarity and coordination of communication between the simulation team, learners, and key stakeholders
- Alignment with identified knowledge gaps and learning objectives
- Realism and relevance of the scenario, including facilitator engagement and scenario management
- Challenges related to event timing, equipment functionality, or resource availability

Feedback from course facilitators is also valuable. These individuals can provide key insight into the ease of executing a simulation scenario, potential latent safety threats the organization should be aware of, or any recommendations for future learners and educators about this event.

We have linked both the Corewell Health Clinical Simulation Team's [standard evaluation](#) and [facilitator's evaluation](#) so you can access and review their contents. These forms are distributed following every event hosted by our team.

Summary

Understanding the purpose and goals of evaluating learners in clinical simulation helps guide the selection of appropriate tools, ensuring meaningful feedback, valuable insights, and ultimately, stronger learning outcomes.



Lesson Nine

Simulation Technology Support

Clinical simulation is built on a foundation of advanced technology and smart teaching practices. But just like any tool, simulation equipment is only as effective as the person using it. Our simulation team is here to help you get comfortable with the equipment and support you in creating realistic, hands-on learning experiences that match your goals.

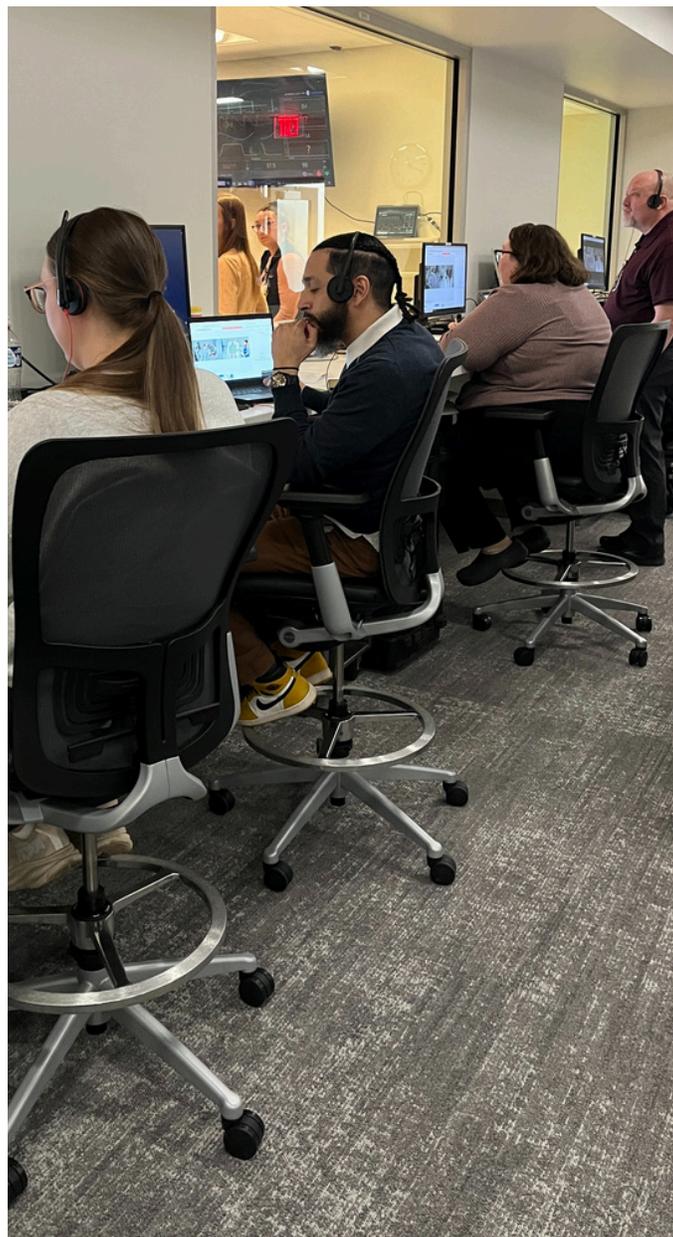
In this lesson, we'll walk you through the tools and resources we have available, so you feel confident and supported as you grow in your simulation education and facilitation journey.

LearningSpace

CAE LearningSpace is a comprehensive simulation center management system that is designed to enhance healthcare education and simulation through efficient simulation training and debriefing. Video recording allows for an effective debrief with the ability to go back and not only watch but listen to how the simulation went and find both the positives and negatives and what we can do to change that.

LearningSpace Capabilities

- Audiovisual capture and debrief: High-definition video recording, streaming and sharing for effective debriefing and feedback
- Ability to work behind the scenes and talk into the learning environment while not being present in the room, to either move the scenario along, answer questions or mimic a transport call to an accepting facility
- Full scale simulation management anywhere from debriefing to standardized patient administration and OSCE management
- Ability to track inventory of assets and consumables
- Warranty tracking within the inventory
- LearningSpace calendar to track all events, with the ability to input the scenario and equipment needs within that calendar entry
- Manage scheduling, resource allocation, and session tracking across multiple rooms or locations
- Assessment tools allow for the creation of customized checklists, reports and evaluation forms to assess learner performance
- Cloud-based for remote access and flexibility for simulation management and learning



If LearningSpace is a tool that would be valuable for your learning or simulation experience, you can reach out to the lead educator or operator on your simulation to ask more about how to integrate it into your simulation and objectives.

Simulation Equipment

We have a wide range of advanced simulation technologies that support immersive, hands-on learning experiences across various clinical scenarios. These tools help enhance training, improve patient outcomes, and support continuous professional development. For a more comprehensive explanation and user guide of each technology, please visit our [Corewell Health website](#) or [SharePoint](#).

Procedural Trainers

Place an arterial line, learn about guided ultrasound, practice intubation and experience many other training opportunities to improve your motor skills on manikins with life-like construction inside and out. Our equipment includes:

- TruCorp Adult / Pediatric / Infant Airway & Intubation Head
- Simulab Adult / Pediatric / Infant Lumbar Puncture
- Simulab Pericardiocentesis / Thoracentesis / Paracentesis
- Gaumard Difficult Airway
- Elevate Health Blue Phantom Arterial Line / Central Line / Femoral Line Vascular Access
- Limbs and Things Shoulder Injection Trainer
- Simulab Knee Arthrocentesis
- Limbs and Things Birthing Simulator PROMPT Flex
- Adult & Infant Catheterization
- Hungry Manikin Pediatric NG
- Laerdal Adult NG & Trach Simulator
- LifeForm Pelvic Examination and Gynecological Simulator
- Arterial and Venous Training Arms
- Ear Examination
- Eye Exam
- Gaumard CPR+D Skills Trainer Torso
- Simulab TraumaMan
- Simulab TraumaChild
- Simulab Vascular Access Child

Pediatric Simulators

Our pediatric simulators come in a variety of ages from newborn to 5-years-old. There are 5 pediatric simulators total that allow learner to experience the challenges of caring for a pediatric patient. Our equipment includes:

- Gaumard Pediatric Hal
- Simulab TraumaChild
- Laerdal SimNewB
- Laerdal SimBaby

Adult Simulators

Our adult simulators and manikins allow those to practice intubation, childbirth, traumas, and acute patient care. Our equipment includes:

- Elevate Health Apollo
- Elevate Health Lucina
- Elevate Health Ares
- Gaumard Noelle Childbirth Skills Trainer
- Echo Healthcare Lifecast with iSimulate & Simulated Stethoscope
- Simulab TraumaMan

Surgical Simulations

Box trainers and computer based high fidelity systems with haptic feedback allow students and professionals to perform a wide variety of surgical tasks with the actual instruments to develop dexterity and achieve a high level of precision. Our equipment includes:

- Surgical Science GI-Bronch Mentor
- Surgical Science LAP Mentor / Express
- FLS and EMIGS Stations
- MA-TRAC High Fidelity Minimally Invasive Mitral Valve Repair Simulator
- Simulab PacerMan
- CLR EigenFlow ECMO Simulator
- ViraMed Arthro Mentor Shoulder Hip and Knee

Ultrasounds and Mentors

The ultrasound mentors allow learners to practice sonography skills on a wide variety of patient anatomies and pathologies. All manikins have realistic landmarks to assist in probe positioning.

- Male manikin features: ECHO, eFAST & RUSH, Abdominal, Lung, Neck, TEE
- Female manikin features: Basic gynecology, 1st trimester, 2nd trimester, Fetal ECHO, Fetal neurosonography
- Interventional ultrasound features: Prone & supine thoracentesis, Central line, Pericardiocentesis
- Surgical Science Angio Mentor

Immersive Interactive Space

Echo Healthcare's Immersive Interactive system allows a room to be transformed to a realistic virtual learning environment. Healthcare professionals no longer need to suspend disbelief and can become completely immersed into healthcare environments such as patient rooms, operating rooms, trauma bays, ambulance, Aero Med helicopters & emergency rooms. Learners can engage and interact through sight, sounds, smell & touch.

Bio-skills

The Clinical Simulation Bio-skills lab is a wet lab facility that provides an environment for medical professionals to practice and develop their surgical and technical skills through hands-on training. Learners can practice directly with full cadavers and cadaveric specimens as they continue their programs. Vendors will have the opportunity to showcase new equipment and techniques in the space increasing learner and faculty knowledge.

Policies and Procedures

To maintain a psychologically safe learning environment and meet the mission of clinical simulation, we have a few key policies and procedures related to space, video and image capturing, and other key aspects of the learning environment. We have a few linked below, but for a comprehensive understanding of the simulation center policies and procedures, please review our [Policies and Procedures Handbook](#).

Lesson Ten

Additional Resources

As you continue to develop your skills as a clinical simulation facilitator, it is important to stay connected and follow the evolving best practices. This lesson shares a curated list of additional resources and advanced professional development opportunities designed to support your growth as a facilitator.

Here are some key websites that offer helpful tools, case studies, and best practices in clinical simulation. These resources can support your work in developing realistic scenarios and improving your facilitation techniques.

- [Society for Simulation in Healthcare](#)
- [Center for Medical Simulation](#)
- [Mayo Clinic Simulation Centers](#)
- [Healthy Simulation](#)
- [International Nursing Association for Clinical Simulation and Learning](#)
- [Association of American Medical Colleges: MedEdPORTAL](#)
- [theSimTech](#)



Book & Journal Recommendations

There are many excellent books and journals that explore clinical simulation in depth, but below, we have highlighted just a few to get you started.

- [Comprehensive Healthcare Simulation Series](#)
- [Simulation Champions: Fostering Courage, Caring and Connection](#)
- [Healthcare Simulation Education: Evidence, Theory and Practice](#)
- [Developing Successful Health Care Education Simulation Center](#)
- [Advances in Simulation](#)
- [Simulation in Healthcare](#)
- [The Journal of Surgical Simulation](#)
- [International Journal of Healthcare Simulation](#)
- [Simulation & Gaming](#)
- [BJM Quality and Safety](#)

Additional Training Opportunities

If you are looking to continue building your skills in simulation, we have listed a few advanced training opportunities below that are worth exploring.

Center for Medical Simulation: Simulation Instructor Training

Offering both in person and virtual options, CMS is a go to in advanced clinical simulation training. "Our four- and five-day courses cover all high-level elements and concepts involved in running a simulation program such as debriefing, adult education, scenario development, assessment and research."

Website: [Treat your colleagues and teammates with respect and professionalism to build trust](#)

SSH: The Certified Healthcare Simulation Educator

This is application based and has specific requirements to apply.

The Certified Healthcare Simulation Educator® (CHSE®) certification has been developed as a service to the healthcare simulation community. The CHSE® certification is intended for individuals who perform healthcare simulation in the educator role without restriction to: Simulation Modality, Setting (locations where simulation takes place), Geographic Location, Learner Population, Function (e.g. teaching, assessment), Profession.

Website: <https://www.ssih.org/chse>

Mayo Clinic: Simulation Instructor Development: Debriefing - Beyond the Basics

This in-person advanced debriefing course is intended to meet the needs of simulation facilitators who wish to elevate their debriefing skills for better learning outcomes. Using a combination of interactive and immersive curriculum, this course will focus on enriching debriefing facilitation knowledge and skills to foster transfer of learning and address challenges in debriefing as well as to reflect on their own practices for professional development.

Website: <https://college.mayo.edu/academics/simulation-centers/courses/simulation-instructor-development-debriefing--beyond-basics/>

INACSL Simulation Education Program (ISEP)

The INACSL Simulation Education Program (ISEP) aligns with the vision, mission and core values of INACSL bringing just-in-time education and best practices to participants. Developed and facilitated by experts in the field, ISEP provides a pathway for novice and intermediate simulation educators, practitioners, and directors to learn and apply evidence-based strategies in simulation. Advanced practitioners will benefit from refinement of skills and best practices in simulation-based education.

Mayo Clinic: Simulation Instructor Development: Comprehensive Course

This in-person, multidisciplinary, interactive course will prepare instructors for healthcare simulation education. During this three-day course, participants will learn the basic principles and elements of simulation-based education, design and implement simulation scenarios as well as procedural simulations, and practice reflective debriefing skills. This course offers an experiential learning environment with a combination of didactic, practice, and reflective feedback with the guidance of experienced Mayo Clinic Simulation Faculty.

Website: <https://college.mayo.edu/academics/simulation-centers/courses/simulation-instructor-development-comprehensive-course/>

Thank You

Thank you for reviewing our clinical simulation facilitator's handbook. Your commitment to delivering high-quality education plays a vital role in how Corewell Health continues to innovate and improve healthcare outcomes in our community.

If you have any questions or would like to share additional resources, please do not hesitate to reach out to the [Clinical Simulation Department](#).

If you would like to provide anonymous feedback, [please use this link for our department evaluation.](#)