

## **Make Your Average Performance Excellent: Application of Mental Skills Training Using Surgical Simulators**

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Surgeons are routinely confronted with stressful situations in the operating room, which have been demonstrated to have a deleterious effect on technical and nontechnical surgical performance leading to errors and potentially impacting patient safety (1). Mental skills training (MST) refers to the implementation of performance-enhancing and stress-coping strategies to enable individuals achieve optimal performance under any (including stressful) conditions. This type of training has proved effective and is routinely used in several disciplines such as with competitive athletes, navy seals, nuclear plant operators etc, but has received little attention in surgery (2). Implementation of MST during practice on simulators provides an excellent training platform for surgical trainees. In this workshop the authors will present the elements of a new surgery-specific mental skills curriculum, the rationale behind its development, anticipated results and preliminary experience with its use. Participants will have the opportunity to practice mental skills while performing different tasks on simulators under the guidance of an experienced mental skills trainer and learn strategies to optimize their own performance under stressful conditions. By the end of this workshop participants will be able to: (learning objectives) 1. Discuss the rationale for, potential benefits and applications of a mental skills curriculum for the training of surgeons 2. Describe the benefits of applying such a curriculum during simulation training 3. Acquire techniques that may allow minimizing performance deterioration under stressful conditions Workshop outline: • Effects of stress on surgical performance • Evidence of effectiveness of mental skills training in healthcare and other disciplines • Rationale for integrating a comprehensive mental skills curriculum during surgical simulation training • Introduction to the mental skills curriculum implemented at our institution and the preliminary experience with its use • Participants practice performance-enhancement and stress-coping strategies while performing laparoscopic tasks on a simulator and learn how to implement them to optimize performance in stressful situations • Group discussion References 1. Arora, S., N. Sevdalis, et al. (2010b). The impact of stress on surgical performance: a systematic review of the literature. *Surgery*, 147(3): 318-330, 330 e311-316. 2. Arora, S., R. Aggarwal, et al. (2011). Mental practice enhances surgical technical skills: a randomised controlled study. *Ann Surg*, 253(2):265-70.

## **Simprov: Jazzing up Simulation-Based Training Using Improvisation Techniques**

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**INTRODUCTION:** Despite attempts to standardize care using national guidelines and hospital protocols, unpredictability characterizes the practice of medicine. Among many skills, physicians need to master skills that support situational awareness: paying close attention to how medical events are unfolding and responding to verbal and non-verbal communication among team members. The discipline of improvisational theater (improv) is built upon maxims such as “say yes”, “pay attention,” and “take care of each other”. This aligns well with the goal of increasing situational awareness. In medicine, improv is used to teach styles of thinking, expressing and behaving that are fluid and appropriately responsive to what is happening in the environment. In this sense, improv scenarios can be used like simulations – as skills for managing realistic and unanticipated medical situations. A team of interprofessional experts in improv and Simulation Committee members proposes an interactive and fun workshop for participants to experience improv as a dynamic learning event.

**GOALS AND OBJECTIVES:** At the completion of this workshop, participants will be able to: 1. Describe key maxims of improvisation 2. Apply improv maxims to enhance simulation-based training, especially handling acute medical care or complex communication dynamics 3. Discuss appropriate simulation educational opportunities to optimize the power of improv 4. Explore participants’ local settings for piloting improv techniques in training

**RESOURCES AND ACTIVITIES:** Below is the workshop outline: 1. Introduce team members (5 minutes) 2. What is improv?: Definition and presentation of improvisational theatre maxims and skills (10 minutes) 3. Group participation in improv exercises to practice selected improv skills (25 minutes) 4. Group Practice of “Simprovisation”: In small groups, participants will engage in simulation scenarios, in which they will apply the improv skills learned in the prior exercises, and then give each other feedback within each group. If time allows, one or more groups may participate in an additional simulation scenario for the entire larger participant group to observe and give feedback. (30 minutes) 5. Breakout Session: Small group breakout to discuss potential application of improv at participants’ home institutions (10 minutes) 6. Large Group Debrief and Wrap Up (10 minutes)

## **Evaluating the Quality of Interdisciplinary Teamwork in the Operating Room**

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The importance of interdisciplinary teamwork skills in the operating room and perioperative care is gaining increasing recognition. Consequently, the development and implementation of team-based training programs has become a popular strategy to improve the quality and safety of perioperative care. However, the true value of such training is heavily dependent of the ability of faculty to accurately evaluate and provide meaningful feedback to OR teams on these safety critical skills. Evaluating and debriefing OR team performance requires training. This workshop is aimed at faculty involved or interested in delivering interdisciplinary team-based training, who want to apply a structured team-based assessment method to evaluate the quality of team performance and provide structured feedback. The structure of the workshop is as follows: Part 1: OR Interdisciplinary Teamwork Assessment (20mins). Workshop participants will be introduced to a validated framework to assess OR teamwork, the Observational Teamwork Assessment for Surgery (OTAS). Conceptual and practical issues regarding interdisciplinary teamwork assessment will be presented and discussed (e.g. biases in the assessment process). Part 2: Evaluating Teamwork Performance- Small group work (35mins). Workshop participants will be split into 3 groups, each one with one facilitator. The groups will review 1-2 simulated videos clips depicting varying levels of OR interdisciplinary teamwork. Participants will use OTAS to evaluate team performance-identifying team behaviors that contributed to/hindered effective team performance. These evaluations will be fed-back to all workshop participants and discussed. Part 3: Team Feedback and Debriefing-Small group work (35mins). Workshop participants will be introduced to the OTAS feedback and debriefing form. Participants will use this form to plan and deliver team debriefing based on the performance depicted in one of the simulated videos of Part 2. The activity will involve one group of participants acting as the OR team to be debriefed; a second group delivering the debriefing; and third group observing and evaluating the quality of the debriefing session. The workshop will conclude with a brief Q&A session.

## **Training in Motion: Implementing Longitudinal Simulation into a Surgical Curriculum**

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**COURSE DESCRIPTION:** Ineffective teamwork has negative impacts on both process and outcome measures in healthcare, often due to deficiencies in communication. In high risk situations, deficits in teamwork can be magnified, such as in the transfer of a critically ill patient from one micro-system to another. Clear, concise communication and highly reliable team function are needed to avoid potential catastrophic outcomes. High fidelity simulation-based training (SBT) has been demonstrated to improve team-based competencies and behaviors. Challenges to its implementation exist, however, especially in implementing high fidelity SBT around patient transfers from one clinical micro-system to another. This immersive, hands-on workshop will address such issues in helping learners to develop and participate in longitudinal simulation-based training exercises at the University of Washington in order to be able to implement these useful programs back at their home institutions. During this workshop, participants will learn about the challenges of transfers of care and how longitudinal simulation can play a role in developing teamwork and communication skills. In addition, they will participate in a longitudinal simulation scenario to get a hands-on feel for its benefits and challenges. They will then participate in breakout sessions to develop their own longitudinal simulation scenarios to take home with them. The workshop will end with a large group debrief to discuss lessons learned. Key learning objectives include defining challenges to longitudinal simulation and a framework for its implementation.

**SESSION OUTLINE PLAN:** Introduction/ disclosures (5 min) Setting the stage: The importance of transitions of care (10 min) Immersive Session: Trauma Team Transfer (30 min) Approaches to implementing longitudinal simulation (10 min) Break Out Session: Planning a scenario (25 min) Large Group Debrief/Summary (10 min)

## **Faculty Development in the Milestone Era: The Necessity of Direct Observation and Feedback for Performance Improvement**

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**Background:** Implementation of the Next Accreditation System (NAS) is resulting in a culture shift for general surgery residency programs across the country. Clinical Competency Committee (CCC) members are tasked with making recommendations to program directors to promote, remediate, or dismiss residents from programs. Many CCC members are realizing that the evidence available to them may be inadequate or even non-existent. General comments such as “good job” or “nice work” on assessments will provide little guidance for CCC members to make milestone-specific decisions. With the implementation of CCCs and the milestones project, residency programs have an opportunity to improve the overall quality of decision making regarding residents' promotion to the next training level or to independent practice. Educating faculty on observation and feedback strategies, with a goal of performance improvement, should be the first step in attempting to improve formative and summative assessment within residency programs.

**Purpose:** The purpose of this workshop is to provide attendees with a direct observation/feedback model to utilize at their home institutions with their own medical education trainees. **Methods:** The session will take place in two parts. The first will focus on the role of direct observation in any feedback model. The differences between behavioral observations and inferences will be stressed during a large group activity. The second half of the session will focus on feedback for performance improvement. Skills in setting up a feedback agreement and utilizing the Ask-Tell-Ask model will be introduced. Short video segments will be used to demonstrate the models. By utilizing case scenarios, attendees will then have the opportunity to practice feedback techniques with a partner. The session will then conclude with a question and answer period.

**Learning Objectives:** By the end of the session, participants should be able to: 1. Describe opportunities for focused observations in clinical settings; 2. Discuss differences between behaviorally based observations and inferences – and implications for learner improvement; 3. Define feedback and explain the purpose of feedback; 4. Demonstrate an understanding of the learner's role in the ATA model of feedback 5. Describe a feedback agreement and the Ask-Tell-Ask model

## **Learning by Example: Enhancing Communication Skills for Bad News Events**

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Introduction Helping family members cope with medical errors and end-of-life decisions for loved ones represent two especially challenging conversations for surgeons in training. In 2006, the University of Minnesota (UM) Department of Surgery established a Family Conference OSCE in which residents participate in annual, videotaped encounters involving such conversations, and are evaluated by standardized family members, critical care nurses, and surgeons. In 2011, we replicated this OSCE nationally across six surgery departments with PGY1 and PGY3 residents. We learned that our OSCE was a reliable exam, but that resident performance was unrelated to training year. We concluded that routine exposure to families and faculty role models during the PGY 1-3 years was an insufficient training mechanism for residents who aren't naturally gifted or trained in communication. To address this problem, the UM general surgery and orthopedic program directors formed a partnership with their counterparts at the Mayo Clinic called the Minnesota Surgical Education Research Consortium (MnSERC). We theorized that residents who struggle with these tasks need to see (and discuss) visual examples of effective and ineffective communication. Working with an instructional designer, we developed a series of short, online modules with embedded video and narration to illustrate these skills. The modules are delivered at spaced intervals over 8 months and accompanied by two 1-hour teaching sessions, reading assignments, and handouts. This curriculum was launched September, 2014, in a randomized, pre-post study design.

Goals and Objectives By the end of the session, participants will: 1. Understand the rationale for intervention and the MnSERC study design. 2. Be familiar with content topics undergirding a 10-module online curriculum in error disclosure and end-of-life communication. 3. Assess local requirements needed for incorporating the curriculum into their setting.

Activities and Resources The majority of the time will be spent viewing online modules, analyzing video excerpts, and discussing how the curriculum can be incorporated in settings with and without simulation resources. Links to published Family Conference OSCE resources will be provided.

## **New Clerkship Directors' Workshop**

Sponsored by the Clerkship Directors' Committee

1) "What does the LCME mean to me?" Nancy Gantt, MD FACS, Alan Ladd, MD FACS/CD committee Introduction: - "What is the LCME and how does it impact a local clerkship?" -Understand the clerkship director's role in the accreditation process. Focused topics with regards to the newly published edicts, for example: -Curricular design (needs, objectives/instruction, assessment, evaluation) -Objective writing -Equivalency of instruction 2) "Assessment 101": Marc DeMoya, MD FACS/AE committee - Become familiar with methods of assessment of M3 surgical clerks - Identify opportunities in curriculum for improvement in student assessment - Recognize pitfalls in student assessment 3) Role of the Clerkship Coordinator: Terri MacDougall, BA, BEd, MEd/CSE Committee - Understand the responsibilities and collaborative role of the clerkship Coordinator in the M3 surgical clerkship 4) Role of nurse-educators in medical student surgical education: Jen Doty, BSN RN/NSE Committee - Become aware of areas of collaboration with clerkship and institutional nurse educators in medical student education and curricular design.

## A Call to Action to Improve the Quality of Surgical Education Research: A User's Guide to the Medical Education Research Study Quality Index (MERSQI) for Study Planning

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### Introduction:

There has been explosive growth in the number of physicians and educators dedicated to medical education research. Unfortunately, the quality of studies is often not as rigorous as in basic science research due to both difficulty in objectively rating the quality of a medical education project and also a lack of educational research training.

This workshop would familiarize participants with and provide practice using the Medical Education Research Study Quality Index (MERSQI). This instrument is similar to instruments for measuring quality in clinical research (e.g., Newcastle-Ottawa Scale), but contains two specific educational research domains that add granularity for assessment of educational study quality. Training in the elements of study design rated as high quality on the MERSQI could also help workshop participants improve their own research projects.

### Workshop Objectives:

- 1) Briefly review the medical education research quality literature
- 2) Introduce the MERSQI as a conceptual framework for assessing the quality of medical education research
- 3) Review sample medical education projects and analyze how quality may be improved using the MERSQI domains
- 4) Promote collaboration and improved quality by allowing an open forum to discuss projects, solicit improvement ideas, and identify partnership opportunities

### Learning Objectives:

By the conclusion of the workshop, participants will:

- 1) Discuss the 6 domains comprising the MERSQI
- 2) List the quality domains where many medical education research studies fall short according to the MERSQI
- 3) Review and analyze the quality of at least one sample surgical education research project and provide at least one suggestion for improvement
- 4) Express confidence in their ability to use the MERSQI to improve the quality of research projects they initiate or review
- 5) Contribute to the community of educational research by discussing potential improvements to their own or another's research projects and/or identifying opportunities for collaboration

**Table 1: Workshop Outline**

Time	Format	What
5 min	Large group	Overview of the history of quality assessment in medical education research
5 min	Lecture	Introduce the Medical Education Research Study Quality Index (MERSQI) as a conceptual framework and discuss its 6 domains
40 min	Team-Based Learning Exercise	Analyze sample education research projects summarized from prior medical education reviews with previously assigned MERSQI scores
	<ul style="list-style-type: none"> <li>• Individual work</li> </ul>	<ul style="list-style-type: none"> <li>• Review descriptions of 3 projects (15 min)</li> </ul>
	<ul style="list-style-type: none"> <li>• Small group work</li> </ul>	<ul style="list-style-type: none"> <li>• Table groups will come to consensus on a quality score for each of the 3 projects and tables will report to the group as a whole (25 min)</li> </ul>
10 min	Large group discussion	Participants discuss take-home points for their own projects If time, participants will have the opportunity to discuss improvement of a project of their own



## **Dialogue Simulation for Handling Interprofessional Conflict: Self-Assessment as Foundational Skills**

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**INTRODUCTION:** Conflict management is a defining characteristic of effective interprofessional teams and essential for optimum patient care. The literature defines conflicts by cognition (lack of perspective taking), emotion (anger), and behavior (conflict escalation). In most conflicts, good people have the same goal (“working in the patient’s best interest”), but differ on how to safeguard or achieve it. Problems occur when things escalate to personal and “moral imperatives.” Conflict dialogues are complex and unpredictable. Managing conflict well begins with self-assessment of own motivations and training. In this session, a team of clinicians, conflict management specialists, and assessment experts use simulation to teach dialoguing skills. Additional information on resources for assessment of team-based competencies will be provided.

**GOALS AND OBJECTIVES:** The goal of this session is to develop self-awareness of conflict management styles and practice effective conflict dialogue skills. Participants will: 1. Identify contributing factors to healthcare conflicts 2. Know the consequences of conflict on patients and employees 3. Describe a dialogue model that covers: scanning for biases/judgment; opening dialogue; eliciting perspectives/sharing own story; establishing mutual goals and affirming relationships 4. Assess own conflict management styles 5. Apply an observation tool to conflict dialogue among team members

**RESOURCES AND ACTIVITIES:** This workshop begins with participants completing a brief self-assessment of their current conflict management styles. We then provide an overview of interprofessional team conflict in surgical care. After introducing a conflict dialogue model, we will analyze 1-3 video clips that demonstrate the model in typical surgical team scenarios which have been identified in previous research. The majority of the session will be spent in live, facilitated “Fish Bowl” simulations in which individuals take turns role-playing short (5-minute) conversations with an actor based on given scenarios. The remaining audience members serve as a resource to the ‘hot seat’ individual by offering dialogue tips. Scenarios may be “rewound” to play situations differently, or continued. Audience members complete an observation sheet that mirrors self-assessment items; these observations contribute to facilitator-led debriefings. The workshop ends with information on how to access additional team assessment resources from the National Center for Interprofessional Practice and Education.

## **Multi-institutional research in surgical education: Breaking the barriers**

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The past decade has witnessed a surge of surgical education research, much of it ASE-delivered. Improvements in educational/training technologies (e.g., virtual reality); reduced resident working hours; and increasing emphasis on safety have driven interest in better preparing medical students for surgery and shortening residents' learning curves. A key historical limitation of the field, however, has been the small scale of the published research. Studies have typically been done within a single institution and with small number of participants. This means that much needed performance benchmarking criteria, which require larger datasets, are lacking. Generalizability of findings can also be limited across studies. The ASE Multi-institutional Research Group (MERG) was formed to help facilitate multi-institutional studies. This workshop is aimed at harnessing the views and expertise within the ASE membership to specify what the problems are that prevent multi-institutional studies from being conducted, and to create a valid platform that will allow development of scalable solutions to these problems. The workshop is structured as follows: Part 1: introduction to multi-institutional research (20mins). MERG will present an overview of a systematic review currently underway on the nature of surgical education studies carried out to-date across multiple institutions. Part 2: small group work (40mins). Workshop participants will be split into 3 groups, each one with one MERG facilitator. The groups will review the following areas of concern for multi-institutional research: - Organizational: administrative and funding barriers, including IRB approval; sharing of credit for studies/publications - Scientific: standardization of educational/training interventions; multi-site data collection; quality assurance - Practical: practical know-how in setting up multi-site studies; networks of collaborators, including within ASE Part 3: feedback and integration (30mins). Each working group will feed-back. Identified barriers and problematic areas of multi-institutional research will be reviewed by all workshops participants. Post-workshop, MERG will produce a briefing report for the ASE Board as part of the Strategic Plan delivery (specifically the strategy of increasing high-quality science). The report will be fed-back to workshop participants – it will be a 'live' document to be utilized within ASE as a user-led basis for our ongoing strategic goal to facilitate multi-institutional educational studies.

## **Blending E-Learning and Simulation to Both Prepare and Assess Incoming Residents**

Thomas Riles, MD<sup>1</sup>; Russell Berman, MD<sup>1</sup>; Adina Kalet, MD<sup>1</sup>; Gerry Isenberg, MD<sup>2</sup>, <sup>1</sup>NYU, <sup>2</sup>Jefferson Medical Center

**GOAL:** As students transition from medical school to residency, there is a growing need for assessment and documentation of competency. The ACGME has set new restrictions regarding the supervision of first year residents as well as a desire from students wanting symptom-based content. In this workshop, we will define the issues surrounding this transition of medical students into surgical residencies and explore novel approaches used in this transition.

**TOPICS:** The workshop will be broken into four segments, with clinical leaders addressing the following topics: What are the major concerns regarding the capabilities of new residents? How do we determine they are ready for patient responsibility? (Russell Berman, MD) What I wish I had learned in medical school before entering residency. (Resident TBD) E-learning modules to prepare students for assuming clinical responsibility as a resident. (Thomas Riles, MD) • Introduction to MD-ON-CALL at NYU: This program is designed for transitioning medical students and first-year medical and surgical residents. The goal of these modules is to provide new residents with a framework for assessing and managing patients that display common clinical symptoms linked to a variety of diagnoses. The modules also provide program directors and hospital administrators a means by which they can begin to assess the ability of junior residents to manage patients. A parallel program of simulation scenarios will be developed that can serve as an assessment tool for the learners' ability to apply information to a clinical situation. Results of a clinical trial combining e-learning and simulation with a standardized patient to assess resident competency before taking call. Adina Kalet, MD • Results of a blended learning experience conducted with 60, fourth-year medical students at NYU.

## Conceptual Frameworks and their Use in your Scholarly Work

Vaughn Carolyn J, Huang Emily, Wyles Susannah, O'Sullivan Patricia, UCSF, ASE Research Committee

**Session overview:** Conceptual frameworks provide the “lens” through which one conducts research. A conceptual framework is a way of thinking about how complex things work. The framework influences the study design and measures. The outcome of a study is then framed as to how the findings support or refute framework. This usually results in an informative and engaging discussion for the paper. Despite their importance, many researchers are unfamiliar with conceptual frameworks. The purpose of this workshop is to introduce and provide opportunities to apply frameworks for surgical education research.

**Learning Objectives:** At the completion of this hand-on workshop, participants will be able to:

- Describe the need for conceptual frameworks in scholarly work.
- Describe how conceptual frameworks inform s scholarly work.
- Apply a conceptual framework to educational scholarship.

**Content Description:** Reviews of educational literature have noted the failure to include conceptual frameworks and indicate that this is a significant challenge to generating quality research. This workshop will define conceptual frameworks and clarify their use by participants examining the consequences of solving problems from different frameworks. To help individuals move forward in this area, each participant will receive a handout with selected frameworks and a tip sheet as to how to find and use frameworks. Participants will have an opportunity to consider a framework for use in their own scholarly work.

### Session Outline Plan

Time	Format	What
5 min	Large group	Overview of workshop and its objectives; introductions
15 min	Lecture	Conceptual frameworks: Definition and need.
40 min	Small group work and report outs	Application of competing conceptual frameworks to solve a surgical educational problem
15 min	Large group discussion	Overview of handout of annotated list of conceptual frameworks and tips
15 min	Individual work/ Large group discussion	Identify next steps to using a conceptual framework

## **Tools to Implement an Institution-wide Quality and Safety Curriculum for Residents**

Nancy Schindler MD MHPE, Megan Miller MD and the ASE Graduate Surgical Education Committee, NorthShore University Health System/University of Chicago

Quality improvement and patient safety are important components of our modern healthcare environment. In addition to being two of the six focus areas for ACGME Clinical Learning Environment Review (CLER), patient safety and quality improvement are included in the surgery residency milestones for systems based practice, problem based learning, and professionalism. Individual residency programs often struggle to provide a robust curriculum in these areas due to limited departmental expertise. An institution-wide quality and safety curriculum provides an opportunity to standardize educational content, capitalize on teaching by local experts, and promote multi-specialty interaction. The purpose of this workshop is to provide program directors with tools to develop, implement, and assess a quality and safety curriculum for residents. Learning objectives for the workshop: By the end of the workshop, participants will be able to: 1. Develop goals for your institutional quality and safety curriculum: what topics/ skills do you want to teach? 2. Write learning objectives for quality and safety teaching sessions. 3. Define specific strategies to teach key quality and safety knowledge and skills. 4. Plan assessment tools to evaluate learners' knowledge and skills in quality improvement and patient safety.

Workshop Outline: 1. The group will identify important knowledge topics and related skills for residents in quality improvement and patient safety. Specific CLER focus areas and Milestones related to quality and safety will be discussed, and a review of available literature on resident curriculum in these domains will be provided. 2. Examples of learning objectives will be provided and discussed for several quality and safety topics. Participants will have the opportunity to practice writing learning objectives for one of their own curricular goals. 3. Workshop leaders will demonstrate strategies for teaching several key patient safety and quality improvement skills. Participants will act as the learners in these interactive demonstrations. Resources will be provided for participants to implement these strategies at their own institution. 4. Potential assessment methods for quality and safety knowledge and skills will be discussed such that participants could utilize them to contribute to milestone assessments at the program level and CLER assessments at the institutional level.