Title:
The Use of Simulation to Inform the Adoption of a Safe-Surgery Checklist

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Session Title:
Global Surgical Safety Concerns
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3:50 PM

Keywords:
simulation, surgical checklist and teamwork

References:


Abstract Summary:
In alignment with the World Health Organization’s Patient Safety Challenge: Safe Surgery Saves Lives, a frontline interprofessional team used simulation to design the implementation of its customized safe-surgery checklist. Attendees will identify key phases of the checklist, individual and team-based behavior changes required, and benefits of simulation.

Learning Activity:

<table>
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<tr>
<th>LEARNING OBJECTIVES</th>
<th>EXPANDED CONTENT OUTLINE</th>
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<td>1. Learners will be able to describe two benefits of simulation as a problem-solving tool.</td>
<td>a. Identifies adult learning theory - learn best by “doing” b. Encourages experimentation and risk without jeopardizing patient safety c. Provides environment for usability testing and elimination of workarounds d. Creates buy-in and support for the proposed solution</td>
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<td>2. Learners will recognize the overlap of patient safety science, process improvement</td>
<td>a. Better patient outcomes b. Increased staff engagement</td>
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and simulation as it relates to the implementation of a safe surgery checklist.

3. Learners will be able to connect effective individual and team-based behaviors associated with the implementation of the three phases of the surgical checklist

- a. Attentional behaviors vs. “autopilot”
- b. Incorporates knowledge, skill, and attitude
- c. Deliberate and mindful behaviors

4. Learners will be able to integrate TeamSTEPPS tools paired to the safe surgery checklist

- a. CUS Concern, Uncomfortable, Safety
- b. Two-challenge rule
- c. Call out d. Check-back

Abstract Text:

**Purpose:** While surgical interventions continue to be lifesaving and health enhancing, these interventions represent a certain element of patient risk (Korol et al., 2013). In addition, with increased transparency by hospitals, patients now review individual hospital safety ratings. In alignment with the WHO Patient Safety Challenge: Safe Surgery Saves Lives, a frontline interprofessional team used simulation to design the adoption of a customized safe surgery checklist. Proven factors for successful implementation of a safe surgery checklist guided the project (Gillespie & Marshall, 2015).

**Methods:** The education team comprised of two nurses and a student nurse was easily convinced by the evidence that a safe surgical checklist could improve patient safety. They identified the effective use of a checklist to be a complex sociotechnical endeavor. They had buy-in from the surgical team, largely due to unanticipated poor patient outcomes. Creating behavior change in this experienced group of professionals who did not accept failure presented a significant challenge. Usability testing, a human factor engineering principles that eliminates workarounds and helps avoid unintended consequences, steered the team to simulation as a learning guide to identify attentional behaviors, active planning, and problem solving (Bowie et.al., 2015). Leveraging frontline expertise, the educational team facilitated two simulation sessions built on the three phases of the checklist. The team pinpointed the deliberate behaviors for each phase, using TeamSTEPPS tools to communicate. The tools included CUS, two-challenge rule, call out and check back.

**Results:** With no facilitation, the first simulation took less than three minutes. During this baseline assessment of the team’s knowledge of the three-phase safe surgical checklist the education team uncovered “autopilot” behaviors, reading the list to get done versus uses it to enhance patient safety. Facilitation began including the use of briefs (planning phase), huddles (capitalizing on “teachable moments”), and debriefs (solidifying the learning and identifying opportunities for improvement). The education team began with team introductions, learning that team members were uncomfortable calling the attending surgeon by his first name which he declared his preference. During the simulation of phase one, “sign in”, the team had an “aha” moment when they did not agree on the location of the patient, the trigger to start the phase, nor recognition of the completion of the phase. These deliberate behaviors were subsequently identified. Roles and responsibilities were clarified. The manikin blinked its eyes when the leader engaged the patient, creating greater patient involvement and active listening to the patient answers. The frontline team became more comfortable and began problem solving, incorporating quality improvement principles of breaking down a process and identifying opportunities or vulnerable areas. They embraced patient safety science, recognizing the power of repetition and benefit of clear, concise standard communication tools known to enhance safety. Within one hour, the team developed a process that was tested and retested for safety and usability. During the debrief, the team expressed gratitude for the opportunity to learn in a safe environment. They were humbled and surprised at how much they learned. On a confidence scale of 0-10, the team rated their ability to spread the improved process to their peers at a “nine”, one point below the highest confidence.
Conclusion: Surgical safety is a top priority in healthcare. The use of a checklist requires commitment from leaders and frontline interprofessional staff, local adaptation and coaching and feedback, all of which is encouraged in a simulation environment. The consensus building and staff engagement is invaluable to sustainability and continuous quality improvement in the use of this safe surgery checklist.