2017

The TechniCom Challenge: Low Fidelity Simulation with High Yield Potential

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Introduction

The focus of surgical simulation training is on technical skill development. Given that communication and teamwork skills are essential for quality patient care, we sought to create a model that could integrate technical, communication and teamwork skills into one simulation exercise.

Objectives

- Enhance manual dexterity and hand eye coordination needed for fundamental laparoscopic skills
- Demonstrate clear, concise information sharing
- Exhibit teamwork based behaviors

Resources

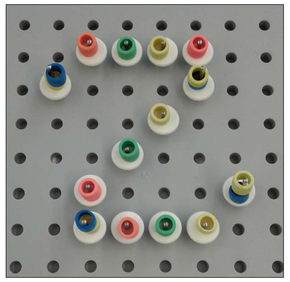
- Laparoscopic Marylands (graspers)
- Laparoscopic Box
- Colored rubber objects
- Small pegs arranged on a tray inside the box trainer
- Colored hair bands
- Pictures of designs to give to the “communicator”
- Debriefer
- Stopwatch

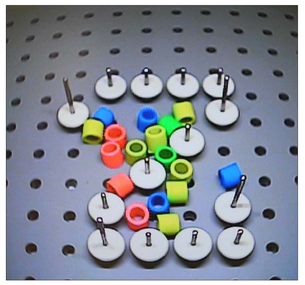
Methodology

Participants work in teams of two. One member of the team serves as the “communicator”, the other serves as the “surgeon”. The “communicator” is given a picture of the design and instructs the surgeon how to use the materials inside the box trainer to replicate the design. The “communicator” cannot look inside the box trainer nor share with the “surgeon” the picture of the design.

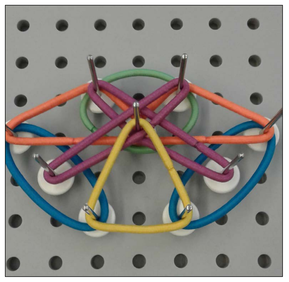
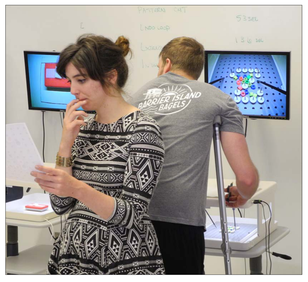
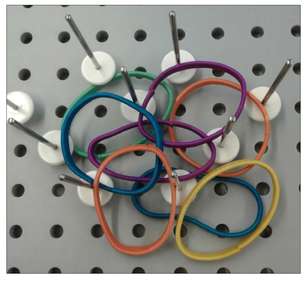
Several designs may be incorporated into the exercise. Pairs are given a maximum time of five minutes to complete each design. A debriefing is conducted to discuss the challenges in completing the simulation.

It’s like playing with Legos™, while learning surgical skills!





design | **simulation** | **field of view**

Results

The simulation has been administered to approximately 45 learners including community internship participants, fourth year medical students, undergraduates and middle school students.

Noting that this is a work in progress, we have been collecting aggregate themes in the debriefings which correlate with Guided Team Self Correction model for team training (Smith-Jentsch, et. al., 2008). These themes include:

- **Information sharing**
- **Information search**
- **Leadership/followership**
- **Error correction**
- **Closed loop communication**

Conclusions / Next Steps

Future goals include research into specifics of how skills may transfer into the learning environment of medical students and residents.

For example, do the technical skills in this exercise improve the practice of the Fundamentals of Laparoscopic (FLS) manual skills for surgical interns? Does the communication and teamwork skills help introduce concepts of team building, enhance communication and teamwork? Is this an effective tool for instructing residents how to teach procedural and technical skills?

Further evaluation is needed to establish the potential relevant and value of this instructional exercise and will require IRB approval.

Acknowledgements

VCU Center for Human Simulation and Patient Safety

References

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Smith-Jentsch, K. A., Cannon-Bowers, J. A., Tannenbaum, S. I., & Salas, E. (2008). Guided team self-correction: Impacts on team mental models, processes, and effectiveness. *Small Group Research*, *39*(3), 303-327.