Department of Surgery
Section of Minimally Invasive Surgery

A Mobile Surgical Skills Lab: Adopting Laparoscopic Training to Remote Learning in the COVID-19 Era

Eileen R Smith, MD; Franklin Olumba, MD; Britta Han, MD; Bradley S Kushner, MD; Paul E Wise, MD; Mary E Klingensmith, MD; Michael M Awad, MD, PhD

Washington University in St. Louis School of Medicine

INTRODUCTION: Our surgical program typically includes robust simulation and technical skills training consisting of multiple in-person skills labs. These allow for technical skills practice on simulators as well as animate and cadaveric models with the opportunity for real time faculty feedback.



Figure 1: Residents in skills lab at the Washington University Institute for Surgical Education.

As strict social distancing guidelines were implemented at our institution in response to the ongoing COVID-19 pandemic, we developed a "mobile skills lab" enabling residents to take equipment for laparoscopic skills practice home and access expert faculty coaching through real-time video conferencing.

METHODS: Residents were able to pick up a laparoscopic skills trainer (Ethicon TASKit) and schedule a coaching session with a faculty mentor. Coaching sessions utilized the screen share function of Zoom video conferencing to allow faculty to view the feed from the resident's laparoscopic trainer directly. Lap trainers were available to faculty who wished to demonstrate techniques to trainees during their sessions.

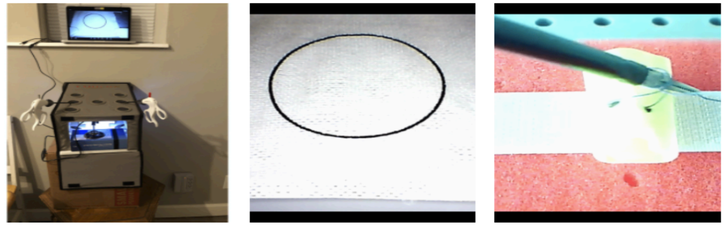


Figure 2: Image of home laparoscopic set up and screenshots of pilot video coaching session.

RESULTS: Both faculty and resident participants in the program found it a useful method for technical skills training for certain skills such as peg transfer and pattern cutting, though camera quality limited ability to deliver feedback on suturing skills. This method easily accommodated video recording of tasks for later self-review by trainees.

The program had the additional benefit of building camaraderie between faculty and trainees during a challenging period.



Figure 3: Social media images of our new remote learning program for interns based on this pilot study.

CONCLUSIONS & FUTURE DIRECTIONS: This new opportunity for skills training was well received by our pilot group, and we used the best practices discovered here to develop a formal remote coaching program for our newest interns. We hope to continue to utilize remote training as an adjunct to in person skills training moving forward.