ACS 2024 Surgeons and Engineers: A Dialogue on Surgical Simulation Meeting

P-A-01

Research Abstracts

Navigating Laparoscopic Camera Skills: Unveiling the Need and Efficacy of a Low-Fidelity Training Curriculum for Medical Students

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Introduction: Camera navigation skills, an important component in laparoscopic training, are not routinely taught in traditional medical student curriculum. Training could reduce the subjective workload, thus improving performance, and enhance the experience of medical students on surgical rotations. We therefore sought to understand the need for laparoscopic camera training in a cross-section of medical students on clerkship rotations at our hospital.

Methods: Medical students on clerkship rotation were invited to participate in a simulation with a low-fidelity box trainer. Participants filled-out a pre-training survey to assess their level-of-experience, and comfort with laparoscopic surgery. The intervention consisted of a training-video, and box-trainer. The participants had two practice sessions and on the third, participant performance was recorded. Video assessments were scored by a blinded-panel focusing on operational-field-centering, correct angle-of-the-horizon, and correct instrument-visualization. After intervention, participants completed a post-training survey. Data collection followed IRB protocols. Minimal risk was involved.

Results: Ninety-three percent (N=14) of students had exposure to laparoscopy. The average assessment score(AAS) was 13(SD 3.2, Range 7.7-18.7). There was a positive correlation coefficient (0.6224, p=0.04) between hours of laparoscopic experience(HLE) and comfort assisting(CA). A positive correlation coefficient but weak significance (p=0.09) was found with CA and AAS. A small difference in completion time (0.18 s) between students with previous video game experience was observed. No significant correlation found between HLE and AAS. No significant relationship found between average completion times and HLE.

Conclusions: Although the majority of students who participated in this study had some exposure to laparoscopy with varying numbers of hours of experience, lack of skill was demonstrated by the wide-ranging assessment scores. This highlights the need for an ongoing curriculum to address the technical challenges of camera navigation for medical students. A notable limitation is the small sample size of the study population. Further investigations are warranted.