

ACS 2022 Surgeons and Engineers: A Dialogue on Surgical Simulation Meeting

Research Abstracts

Simulating the surgical environment: The benefits of exposure to surgical skills for medical students

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Introduction: Current models of surgical education in medical schools produce variable results, with some junior doctors expressing low levels of confidence and competency in surgical skills prior to internship. The aim of this study is to investigate whether the implementation of a 'Surgical Skills Simulation Workshop' (SSSW) can improve medical student confidence levels, competency and interest in pursuing a surgical career

Methods: 32 final year medical students across two university medical schools were enrolled in a SSSW which consisted of four, three-hour workshops covering suturing, hand-tying and laparoscopy. Student competency, confidence levels and future interest in a surgical career were assessed through pre-and-post workshop surveys, demonstrator assessments and student self-assessments.

Results: Upon completion of the SSSW, all 32 final year medical students demonstrated a significant improvement in competency and confidence levels with all three core skills; suturing, hand-tying and laparoscopy ($p < 0.01$). Students showed the largest confidence increase with hand-tying (Pre: 2.75 vs Post: 7.97, $p < 0.01$), followed by laparoscopy (Pre: 3.13 vs Post: 7.91, $p < 0.01$) and suturing (Pre: 5.13 vs Post: 8.31, $p < 0.01$). In regard to internship preparedness, only 6 students (18.7%) believed their medical school had adequately prepared them for surgical rotations, with 18 students (56.3%) feeling unprepared and 8 students (25%) indifferent. Additionally, 26 students (81.3%) expressed they were more likely to pursue a surgical career after having attended the SSSW compared to 19 students (59.4%) prior to the SSSW.

Conclusions: Surgical skills simulation workshops can improve medical student confidence levels and competency in core surgical skills, while fostering interest in a surgical career. Medical schools and teaching hospitals should consider utilising it as a practical method for surgical education delivery to help prepare students for surgical rotations as a junior doctor. Further studies are required to assess the long-term impact of a SSSW on future career choice, competency and confidence levels.