

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

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Research-In-Progress

High Fidelity Trauma Operative Simulation for Rising Senior Residents

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Introduction: Surgical procedures for surgery residents are decreasing across the United States. In order to address this decline in cases in Trauma Surgery, we used a high-fidelity simulation model to expose rising senior residents to operative trauma cases before their first rotation on service.

Methods: Residents were given a 2-hour didactic session followed by hands on operative one-on-one session with faculty. Residents were surveyed before the lecture and following the operative simulation regarding their comfort with procedures and how the experience prepared them for operative trauma. A single instructor performed each one-on-one operative session with residents and assessed resident Entrustable Professional Activities (EPAs), with the plan to re-assess residents throughout the year.

Preliminary Results: Residents noted improved comfort level with procedures practiced on simulation model. The pre-course evaluation provided areas of least comfort that could be addressed in more detail during the simulation. Additionally, the simulation session provided a framework to identify areas of deficiency and opportunities for directed education during the simulation and throughout the year.

Next Steps: A high fidelity simulation can improve resident competence and comfort with uncommon trauma operations, and can provide a framework for directed education. We plan to re-survey the residents at three and six months following the simulation course to assess retention, and faculty will complete EPAs throughout the year for each of the tested operations.

