

## HYPER-REALISTIC ADVANCED SURGICAL SKILLS PACKAGE WITH CUT SUIT SURGICAL SIMULATOR IMPROVES SURGERY TRAINEE CONFIDENCE IN OPERATIVE TRAUMA

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**Introduction:** Adequate exposure to operative trauma is not uniform across U.S. surgical residencies, and therefore it can be challenging to achieve competency during residency alone. We introduced a novel and high-fidelity open-surgical simulator called the “Advanced Surgical Skills Package (ASSP) / Cut Suit,” which can realistically replicate traumatic organ injury and bleeding, as part of our training curriculum to address this deficit. Our objective is to evaluate the use of the ASSP as a training instrument for civilian surgeons. **Methods:** Groups of 3-5 trainees from 6 different training programs, all with level 1 trauma centers within the largest public healthcare network in the United States, participated in this prospective, observational trial. The surgery residents were of different post-graduate levels and were instructed on operative tasks including resuscitative thoracotomy, exploratory laparotomy, splenectomy, hepatorrhaphy, bowel resection, retroperitoneal exploration, arterial shunt placement, nephrectomy, and temporary abdominal closure. Pre- and post-course surveys were used to evaluate trainees’ experience and confidence performing these procedures utilizing a 5-point Likert scale. **Results:** Forty-five surgery residents participated in the evaluation. The surgical scenario was rated as highly stressful and realistic, with average scores of 3.1 and 4.5 out of 5, respectively. Across all procedures, there was a 1.2 point increase in average confidence rating for all residents (from 2.7 to 3.7 out of 5). The percentage of residents who were *most* confident in performing the procedures (rating of 4 or 5) increased from 33% to 61%. **Conclusions:** The ASSP with the Cut Suit surgical simulator is

a realistic and useful adjunct in training young surgeons to manage complex operative trauma. Further studies are necessary to determine the most appropriate application of this simulator in surgical residency program curricula.

