INTRODUCTION:

Endovascular techniques performed by acute care surgeons have largely been basic and limited to intravascular catheter placement at the bedside. This study was designed to investigate the final results of a formal training course focused on the skills required to perform a bedside endovascular technique using virtual reality simulation (VRS) and central pressurized cadaver models (CPCM).

METHODS:

We evaluated participants who had taken the Basic Endovascular Skills for Trauma™ Course or Workshop from 01/14-06/16. Demographics such as nature of clinical practice, location, and years since training were collected. Pre-tests and post-tests were compared using paired t-tests. Pre- and post-Course and Workshop surveys were distributed on day 0, and post-Course surveys distributed at 6- and 12-month simulation intervals. Simulation modules for the Course included VRS and CPCM, and VRS only for the Workshop.

RESULTS:

311 students were trained; 179 at Courses, and 132 at Workshops. Most were acute care surgeons (90.6%) from ACS Level 1 trauma centers (70.7%) with a range of years since training from 0-31. 6.4% of participants were international attendees. Improvements in knowledge were observed (p<0.0001), and 96% of responders (n=115) felt confident to perform the skill on their next call day. 16 of 59 respondents indicated they performed REBOA in the clinical setting (range 1-5) within 6 months and an additional 8 performed REBOA (range 2-7) within 12 months. Reasons for not performing REBOA included lack of suitable patients (36.2%), or lack of credentials (25.9%).

CONCLUSIONS:

A statistically significant increase in knowledge was observed. This standardized method of instruction has been utilized at high-volume REBOA centers for credentialing purposes, and proof of validity and transfer of skills to the clinical setting is emerging. Further investigation into skill acquisition and maintenance is required. The Course and Workshop have since been acquired by the ACS-COT which will provide resources for refinement and promulgation.

REFERENCES: