

Stanford researchers reveal results from endovascular skills training for surgical residents

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Researchers from Stanford University's Goodman Simulation Center in the Department of Surgery in Palo Alto, CA, revealed the results of endovascular skills training provided to their surgical residents today at the 66th Vascular Annual Meeting presented by the Society for Vascular Surgery®.

The Robert Wood Johnson Physician Faculty Scholars Program funded the study. Co-author Jason T. Lee, MD, and Program Director for the vascular surgery residency / fellowship at Stanford Hospital and Clinics explained that implementation of an intensive simulation-based endovascular curriculum during the vascular surgery (VS) core rotation improved the technical skills of general surgical residents on a high-fidelity simulator and most importantly then translated to assessed performance in the actual operating room. The experimental group was compared to a control cohort of surgical residents receiving the usual teaching obtained from standard clinical rotations.

"Surgical simulation has emerged as a potentially important adjunct to residency training in the era of duty-hour work restrictions," said Dr. Lee. "We conducted a prospective randomized trial to determine whether an endovascular simulation-based curriculum improved the technical performance of our surgical residents."

Dr. Lee added that third-year residents rotating on vascular surgery were randomized to "simulation" consisting of weekly faculty-mentored simulation-based sessions and compared to "control" without simulation assignments and teaching sessions. Endovascular skills were assessed pre- and post-rotation on a high-fidelity simulator utilizing a previously validated checklist and structured endovascular global assessment scale (score 1-5), and a live OR patient evaluation at the end of the rotation.

From 2008-2011, 25 consecutive surgical residents (13 simulation, 12 control) rotating on the University's VS service were enrolled. Pre-test assessment was not different between groups documenting similar baseline skills (1.6 vs. 1.4), and operative exposure during their 8-week rotation was similar for open and endovascular cases. Amount of time reading, didactic teaching and conference attendance was also similar between cohorts.

"There was significant improvement on the post-test global assessment score (3.6 vs. 1.5) performed on the simulator for the entire group, with the residents assigned to the "simulation" group outperforming the "control" group (4.0 vs. 3.3) on the simulator. The novel finding in this study was the translation in performance on a live OR patient with the "simulation" group performing better than the "control" group (3.5 vs. 2.5)," said Dr. Lee. "We hope in the future the vascular skills lab provides a safe training environment for trainees to augment their education in both open surgical and endovascular skills and that some benchmarks for assessment and competency determination can be provided to vascular surgery educators."

Source: Society for Vascular Surgery