Methods: National Medicare beneficiaries undergoing major vascular surgery (open abdominal aortic aneurysm repair (AAA) and lower extremity bypass (LEB)) in 2000-2008 were examined (n=387,501). Risk-adjusted 30-day readmission was the primary outcome measure. Logistic regression was used to adjust for patient factors. After ranking hospitals by proportion of black patients served, differences in readmission rates were examined. Finally, the impact of the site of care on the observed disparity was assessed by using modeling techniques that adjust for hospital-specific readmission differences.

Results: After adjusting for patient factors, blacks were 20% more likely than non-blacks to be readmitted. Black patients receiving care in predominantly minority-serving hospitals were readmitted more often than black patients in non-minority-serving hospitals (19.9% vs. 14.2%, P<.001). In models accounting for differences in site of care, the hospitals where black patients receive care accounted for approximately 55% of the residual disparity in readmission rates. This magnitude of this effect was similar for both operations (34% in AAA, 56% in LEB).

Conclusions: Black patients are more likely to be readmitted to the hospital following major vascular surgery compared to non-black patients. Higher readmission rates in minority-serving hospitals play an important role in this observed disparity. Whether patient-level factors or hospital-level processes contribute will require further study.

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PVSS23.
Simulation-Based Training to Teach Open AAA Repair to Surgical Residents Requires Dedicated Faculty Instruction

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Objectives: We assessed the impact of AAA-specific simulation training on resident performance in simulated open abdominal aortic aneurysm repair (SOAAAAR) and determined whether simulation training required dedicated faculty instruction.

Methods: We randomized 18 residents (PGY3-5) to an AAA simulation course consisting of either two mandatory practice sessions proctored by a surgical skills lab coordinator (Group A, n=8) or two sessions led by a vascular faculty instructor (Group B, n=10). All residents received a detailed manual and video demonstrating the technique of open AAA repair. Blinded faculty graded SOAAAAR performance at baseline and post-course using a validated tool.

Results: Characteristics and baseline scores between Groups A and B were not different. Post-course, there was a trend towards improved performance in Group A as measured by procedural checklist scores (34.8±9.5 vs. 31±12.6, P=.08). Group B performance was improved from baseline with regard to procedural checklist scores (44.1 ± 6.3 vs. 34.9 ± .5, P=.02), global rating scores (28.4 ± .6 vs. 25.3 ± 5.0, P=.049), and overall assessment of operative competence (P=.02), with a trend toward significance in quality of final product (P=.1). Time to complete SOAAAAR improved in both groups (P=.02). Baseline performance varied significantly with year of training (PGY3: 42±15 – PGY5: 67±15, P=.008). Improvement varied inversely with year of training (P<.05) and post-course scores were equivalent for PGY3-5 residents.

Conclusions: An AAA-specific simulation training course improved resident performance in simulated open AAA repair. Dedicated faculty instruction during the simulation training was required for significant improvement in resident performance. The impact of simulation training was greatest in more junior residents. Procedure-specific simulation training with dedicated faculty can be used to effectively teach operative procedures and should focus on early residency training.


PVSS24.
Surgical Intervention for Radial Artery Catheter-Associated Ischemic Complications

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Objectives: Radial artery catheterization may be complicated by arterial thrombosis and hand ischemia. We sought to identify risk factors for radial catheter-associated ischemic hand complications and need for operative intervention.

Methods: All patients with radial artery catheter-associated ischemic hand complications at a single hospital between 2006 and 2011 were identified. Clinical risk factors (vascular comorbidities, anticoagulation or antiplatelet therapy, shock, sepsis, and APACHE score) in patients whose complications lead to surgical consultation, were compared with an age- and gender-matched control patient cohort with uncomplicated radial artery catheters. Nominal variables were compared using McNemar test, chi-square, and fisher’s exact test (P<.05). Paired t-test and one-way ANOVA were used for continuous variables.