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DEVELOPMENT OF COMPREHENSIVE VASCULAR SKILL ASSESSMENT (CVSA) FOR SURGICAL TRAINEES

Sidhu RS, Chen J, Baxter K, Wu H
St. Paul's Hospital, Vancouver, BC

Purpose: To develop a reliable and valid Comprehensive Vascular Skills Assessment (CVSA) addressing both knowledge and technical skills of GS residents.

Significance: The evaluation of surgical residents is often limited to assessment of knowledge (examinations) and of technical skills (subjective opinion of faculty). Vascular skills are important to practicing general surgeons. However, endovascular therapy has changed vascular practice in teaching centres. It has been suggested that there may be an erosion of traditional vascular skills acquisition for general surgical (GS) trainees. There is a growing need to establish the level of proficiency of current trainees so that deficiencies can be identified and addressed.

Methods: Twenty-four of 38 GS residents at the University of British Columbia participated in this study. Participants completed a two-part CVSA. Part 1 was a short answer question examination (1 hour). Content validity was ensured during question development by inclusion a panel of vascular and general surgeons. Part 2 was a series of 4 vascular surgical skills stations in a skills lab (IVC trauma, embolectomy, femoral anastomosis, US guided line insertion) (1 hour). Technical performance was rated using previously validated Global Rating Scales (OSATS).

Results: The mean overall CVSA score was 50% with the Part 1 and 2 scores being 46.9% and 52.8%. The CVSA demonstrated excellent construct validity with significant improvement in scores with increasing PGY level ($p=.01$, ANOVA). The CVSA demonstrated excellent overall reliability with Cronbach's alpha 0.9 (0.81 for Part 1 and 0.72 for Part 2).

Conclusion: The CVSA is a comprehensive assessment of vascular skills that is both valid and reliable. It offers an objective, feasible, and rapid assessment of GS trainee vascular skills. The results from this study (overall 50% score) suggest that current trainees at UBC may require more exposure to vascular surgery if future practice plans include vascular procedures.