

## SPECIAL COMMUNICATION

# The Vascular Surgical Milestones Project

Erica L. Mitchell, MD, MEd, SE,<sup>a</sup> John F. Eidt, MD,<sup>b</sup> Robert S. Rhodes, MD,<sup>c</sup> and R. James Valentine, MD,<sup>d</sup> on behalf of the Vascular Surgery Milestone Working Group, *Portland, Ore; Greenville, SC; Philadelphia, Pa; and Dallas, Tex*

The Accreditation Council for Graduate Medical Education (ACGME) has outlined its Next Accreditation System (NAS) that will focus on individual resident and residency outcome measurements.<sup>1-3</sup> Vascular surgery (VS) has implemented the NAS beginning July 2014 with first reporting in January 2015. A key component of the NAS is the objective and constructive assessment of educational milestones, which are explicit behaviors or accomplishments that occur during the process of residency education.<sup>2</sup> Milestones describe competencies more specifically and identify specialty-specific knowledge, skills, attitudes, and performance that can be used as competency-based outcome measures within the defined six ACGME competency domains. This article describes the development, use within the NAS, and challenges of the VS milestones.

### VS MILESTONE DEVELOPMENT PROCESS

In 2013, the ACGME, through the Residency Review Committee for Surgery, convened a VS Milestone Working Group (VS MWG) that included representatives from the American Board of Surgery-Vascular Surgery Board, Residency Review Committee-Surgery, and Association for Program Directors in Vascular Surgery (APDVS). The VS MWG ([Appendix](#), online only) was charged with developing the VS Milestones and met in August 2013 and early

2014 to accomplish this task. When considering how best to develop the VS Milestones, the VS MWG proposed four key criteria for the working document. The VS Milestones should be (1) simple and logical, minimizing ambiguity; (2) clinically relevant and applicable to all VS training paradigms; (3) centered around a previously developed assessment tool, with milestone competencies captured by this assessment tool; and (4) consistent with Milestones already created for competencies common to other procedural or surgical specialties.

From its inception, the VS MWG acknowledged that this new evaluation process would potentially represent considerably increased work for all VS Program Directors (PDs) as well as faculty involved in the evaluation process. One of the main objectives in milestones creation therefore was to minimize this burden by ensuring that each milestone be applicable and measurable within the routine day-to-day workplace environment and relevant to all teaching faculty and learners in all three VS training paradigms (integrated, early specialization, and traditional fellowship). A second overarching concept also required that the milestones be able to clearly differentiate varying levels of performance. The goal in writing these milestones was to provide clear and measurable thresholds of performance that could be used to provide hard data to support decisions about resident advancement, remediation, or dismissal. The third criterion in milestones development was to maximally use the Vascular Integrated Technical and Teamwork Assessment for Learning (VITTAL) assessment tool where applicable and to allow other tools, developed to assess the core competencies, to be adoptable into the assessment system. VITTAL is a Likert-anchored operative assessment tool that was developed, and validated, to measure trainee knowledge, skills, and attitude in the pre-operative preparation, performance, and conduct of a vascular operation or procedure. Finally, the group recognized the need not to “reinvent the milestone wheel” and to use milestones developed for other surgical and procedural specialties that were applicable to VS.

### DREYFUS MODEL OF PROFESSIONAL DEVELOPMENT

Since the ACGME shifted its focus toward competency-based outcomes in the domains of patient

From the Division of Vascular Surgery, Oregon Health and Science University, Portland<sup>a</sup>; the Division of Vascular Surgery, University of South Carolina, Greenville<sup>b</sup>; the American Board of Surgery, Philadelphia<sup>c</sup>; and the Division of Vascular Surgery, University of Texas Southwestern Medical Center, Dallas.<sup>d</sup>

A full list of the Vascular Surgery Milestone Working Group members can be found in the [Appendix](#) (online only).

Author conflict of interest: none.

Additional material for this article may be found online at [www.jvascsurg.org](http://www.jvascsurg.org). Reprint requests: Erica L. Mitchell, MD, MEd, SE, Division of Vascular Surgery, Oregon Health and Science University, 3181 SW Sam Jackson Park Rd, OP11, Portland, OR 97239 (e-mail: [mitcheer@ohsu.edu](mailto:mitcheer@ohsu.edu)).

The editors and reviewers of this article have no relevant financial relationships to disclose per the JVS policy that requires reviewers to decline review of any manuscript for which they may have a conflict of interest.

J Vasc Surg 2015;62:251-5  
0741-5214

Copyright © 2015 by the Society for Vascular Surgery. Published by Elsevier Inc.

<http://dx.doi.org/10.1016/j.jvs.2015.03.018>

**Table.** Vascular surgical procedures defined by procedural complexity

---

|   |
|---|
| Basic procedures                                |
| Diabetic foot and wound management              |
| Amputation                                      |
| Basic arteriovenous fistula/graft               |
| E-code vascular exposures                       |
| Varicose vein procedures                        |
| Percutaneous vascular access                    |
| First- and second-order catheterizations        |
| Inferior vena cava filter placement             |
| Intermediate procedures                         |
| Femoral-popliteal bypass                        |
| Extra-anatomic bypass                           |
| Thromboembolectomy                              |
| Femoral endarterectomy                          |
| Carotid endarterectomy                          |
| Nontruncal vascular trauma                      |
| Iliofemoral angioplasty/stent                   |
| Inferior vena cava filter retrieval             |
| Infrarenal endovascular aortic aneurysm repair  |
| Advanced procedures                             |
| Open aortic surgery at all levels               |
| Mesenteric and renal interventions              |
| Infrageniculate intervention                    |
| Reoperative vascular surgery                    |
| Graft infections                                |
| Carotid stent                                   |
| Complex endovascular aortic aneurysm repair     |
| Thoracic endovascular aortic aneurysm repair    |
| Fenestrated endovascular aortic aneurysm repair |

---

These categories are not fixed, and it should be understood that considerable latitude is given to each program director to determine, on the basis of institutional referral and practice patterns, which specific operations should fall into each category.

care, medical knowledge, systems-based practice, practice-based learning and improvement, professionalism, and interpersonal and communication skills, the challenge for educators has been to meaningfully assess each of these domains in a manner that appropriately captures the learner's competence. The Dreyfus Model of Skill Acquisition has been adopted by medical educators to describe the developmental stages of professional development—beginning with novice and progressing through advanced beginner, competent, proficient, and finally expert or master—and is applicable to VS training and practice.<sup>4-6</sup> Although the VS MWG elected not to use the Dreyfus descriptors in the VS Milestones document, the Dreyfus concept was embraced as a means of identifying progress through vascular surgical training. The milestone descriptors and targets for resident performance were therefore defined according to core competency and organized using this developmental framework—from less to more advanced—correlating with the resident's progression from entry level through graduation. Milestones were therefore arranged into numbered levels, with Level 1 to Level 5 tracking synonymous with moving from novice to expert.

Level 1 narrative was designed to describe the milestone threshold expected of an incoming novice resident. A specific designation, “not yet achieved Level 1,” was also provided for those trainees not meeting this minimal

milestone level. Level 2 and Level 3 narratives were developed to describe threshold levels of knowledge, skills, attitudes, and performance of those trainees advancing toward the graduation target but not yet at threshold level for independent and unsupervised practice. Level 4 describes the levels of knowledge, skills, attitudes, and performance expected of a graduating VS trainee ready for independent practice, and Level 5 describes the resident who has advanced beyond performance targets set for residency completion. Only exceptional trainees are expected to achieve this level. Broad assumptions made by the working group included the following: graduating residents may not achieve Level 4 in all areas; trainees can achieve Level 4 in some areas before the final year of training; and initially, early-specialization and traditional residents are expected to be farther along the Dreyfus spectrum compared with integrated trainees.

### THE VITTAL

The VITTAL assessment tool was developed as an operative performance rating system applicable for use throughout VS training for both formative and summative assessment. This tool was developed at Oregon Health and Science University in collaboration with coauthor John F. Eidt, MD, and Nick Sevdalis, PhD, of Imperial College, London. Tool development was based on a survey (needs assessment) administered to VS PDs, a systematic review of the literature<sup>5</sup> (content validity), and expert consensus from national experts in VS (content validity). The tool has undergone a strict validation process including content and construct validity, interassessor reliability, and feasibility of use at both an institutional and a national (20 institutions) level.

This assessment tool assesses VS knowledge, judgment, and technical and procedural skills as well as nontechnical skills. *Knowledge* and *judgment* are assessed through the residents' ability to provide critical data (medical background, physical examination, laboratory studies, and diagnostic studies) relevant to the patient's operative needs as well as through the residents' description of procedural rationale, knowledge of the procedural anatomy and procedural steps including critical decision points within the operation, and knowledge of strategies required for management of unexpected intraoperative findings and events or crises. *Procedural and technical skills* are evaluated intraoperatively through demonstration of procedural preparation and readiness (patient positioning; knowledge of instrumentation, equipment, devices, and medications required for the safe conduct of the operation), demonstration of basic and vascular-specific (open and endovascular) surgical skills, and trainee evaluation of procedural outcomes (ie, assessment of the procedural end points or technical results pertinent to goals of the procedure). Trainees' *nontechnical skills* are also assessed intraoperatively by evaluation of their situational awareness, coping ability, communication, teamwork, and leadership skills. Because this tool captures, using explicit and unambiguous narrative descriptors of core competencies within the Dreyfus

Download English Version:

<https://daneshyari.com/en/article/2988596>

Download Persian Version:

<https://daneshyari.com/article/2988596>

[Daneshyari.com](https://daneshyari.com)