

**ACGME Program Requirements for Graduate Medical Education
in Vascular Surgery (Integrated and Independent)
Summary and Impact of Major Requirement Revisions**

Requirement #: Definition of Specialty

Requirement Revision (significant change only):

Definition of Specialty

~~Vascular surgery is the surgical specialty involving diseases of the arterial, venous, and lymphatic circulatory systems, exclusive of those circulatory vessels intrinsic to the heart and intracranial vessels. Specialists in this discipline demonstrate the knowledge, skills, and understanding of the medical science relative to the vascular system, as well as mature technical skills and surgical judgment.~~

Vascular surgeons provide comprehensive care. They care for patients with conditions caused by occlusive, aneurysmal, inflammatory, traumatic (both iatrogenic and non-iatrogenic), compressive, and other etiologies of the arterial, venous, and lymphatic circulatory systems, exclusive of those circulatory vessels intrinsic to the heart and brain. Comprehensive care requires expertise in evaluation, diagnosis, operative (including open, endovascular, and hybrid approaches), and non-operative treatment of patients with acute and chronic vascular disease. They provide care across a spectrum of health care settings, ranging from highly specialized to resource-limited environments.

Vascular surgeons are professionals. Professionalism includes high ethical standards, stress tolerance, and empathy. Vascular surgeons promote sustainable and equitable delivery of vascular care through resource stewardship and identify and mitigate the effects of health care inequities on patient outcomes. They advocate for patients and their profession by continuously striving for diversity, equity, and inclusion in the clinical learning and practice environments, as well as in organizational leadership. Vascular surgeons recognize the importance of personal well-being and use skill sets that promote resilience, work-life integration, and career longevity.

Vascular surgeons are patient-centered. They provide care that is humanistic, ethical, and value-directed. Vascular surgeons emphasize primary and secondary prevention of disability and death while providing education that prioritizes quality of life. Vascular surgeons diagnose and treat patients in a holistic and longitudinal manner, using the entire spectrum of available treatment options. Their judgement and expertise in the medical management of vascular disease, in addition to their interventional training allow them to lead complex, shared decision-making and offer patients the most appropriate treatment options while focusing on the long-term implications of each choice.

Vascular surgeons are critical for multidisciplinary management of patients. They are leaders in the care of patients with wounds, venous disease, and chronic limb-threatening ischemia. Vascular surgeons focus on limb salvage and preservation of function, performing amputations when necessary. They work with other clinicians by providing vascular exposure, managing iatrogenic and traumatic vascular injury, and restoring blood flow to ischemic tissue. Vascular surgeons play a significant role in the provision and maintenance of vascular access and the care of critically ill patients. Vascular surgeons are proficient in the acquisition and interpretation of vascular laboratory and imaging studies.

Vascular surgeons are scholars. They contribute to and analyze the scientific literature, including translational science. They practice evidence-based care, interpret and report patient-centered outcomes, and utilize data management science for ongoing professional learning and continuous quality improvement. Vascular surgeons are creative and adaptive lifelong learners who design and assimilate new technologies and scientific advances. Vascular surgeons are committed educators. They communicate fluently and clearly explain complex data and concepts to all stakeholders, especially patients and their surrounding communities.

1. Describe the Review Committee's rationale for this revision:

Every 10 years, the ACGME Review Committees are required to evaluate the applicable specialty-specific Program Requirements for revision. In 2017, the ACGME re-envisioned the process by which this is done. The new process, which included scenario-based strategic planning, called for rigorous and creative consideration about what the specialty would look like in the future prior to proposing any revisions, recognizing that the future of the specialty and health care is marked with significant uncertainty.

Eight themes emerged from the revision processes (including scenario planning, focus groups, specialty surveys, and stakeholder group efforts) that provided insight into the vascular surgeon of the future and the practice of vascular surgery:

- 1. The Learning Continuum**
- 2. Professional Focus**
- 3. Professionalism, Ethics, and Compassion**
- 4. Integration of Technology**
- 5. Integration of Health Care and Economics, Accountability, and Resource Management**
- 6. Leadership and Team Integration**
- 7. Physician Well-Being**
- 8. Strengthening the Pipeline**

The proposed definition of a vascular surgeon reflects those themes and the core functions and values of vascular surgery of today and of the future.

2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?

The specialty definition is intended to encompass the skills and knowledge required to educate the vascular surgeon of the future, encourage and promote program improvements, promote innovation in education, establish a focus on the well-being of residents, and ultimately promote patient safety while ensuring high-quality care.

3. How will the proposed requirement or revision impact continuity of patient care?

Reflected in the revised definition of a vascular surgeon are the tenets of continuity of care, comprehensive care, and a focus on interprofessional teamwork.

4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?

Depending upon the types of facilities, organizational structure, number of personnel, and the organization of didactics currently present in each accredited program, there may be a need for additional resources.

5. How will the proposed revision impact other accredited programs?
There should be no impact on other accredited programs.

Requirement #: Specialty-Specific Background and Intent following Definition of Specialty

Requirement Revision (significant change only):

Specialty-Specific Background and Intent: The term “resident” is used throughout this document to describe individuals in an integrated vascular surgery program or in an independent vascular surgery program. Any difference in program requirements and/or training needs are identified by the type of program (i.e., integrated or independent).

1. Describe the Review Committee’s rationale for this revision:
The Review Committee has chosen to simplify requirements by merging the independent and integrated program requirements into a single document. For ease of use, all residents and fellows enrolled in an ACGME-accredited vascular surgery program will be referred to as residents, and format-specific variations will be identified as applicable.
2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?
N/A
3. How will the proposed requirement or revision impact continuity of patient care?
This revision should have no impact.
4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?
No
5. How will the proposed revision impact other accredited programs?
This revision should have no impact.

Requirement #: **2.11.a. – 2.11.d.6.**

Requirement Revision (significant change only):

- 2.11.b. ~~In addition to the program director, there must be a minimum of four board-certified vascular surgeons and one board-certified general surgeon designated as core faculty members.~~^(Core)

- 2.11.c. ~~For programs with 10 or more approved residency positions, there must be, in addition to the program director, a minimum of one core faculty member for each approved position.~~^(Core)
- 2.11.c.1. ~~The majority of those core faculty members must be board-certified vascular surgeons.~~^(Core)
- 2.11.c.2. ~~There must be a minimum of one board-certified general surgeon designated as a core faculty member.~~^(Core)
- 2.11.d. In addition to the program director, there must be a minimum number of core faculty members who are board-certified vascular surgeons or board certified in specialties encompassed in the foundational curriculum.^(Core)
- 2.11.d.1. Independent programs must have a minimum of two core faculty members who are ABS- or AOBS-certified vascular surgeons.^(Core)
- 2.11.d.2. Integrated programs must have a minimum of four core faculty members who are ABS- or AOBS-certified vascular surgeons.^(Core)
- 2.11.d.3. For each approved chief position in the independent or integrated program greater than one, there must be an additional two core faculty members who are ABS- or AOBS-certified vascular surgeons or who are ABS- or AOBS-certified in specialties encompassed in the foundational curriculum.^(Core)
- 2.11.d.4. For integrated programs, there must be at least one core faculty member certified in a foundational specialty.^(Core)
- 2.11.d.5. The majority of core faculty members must be board-certified vascular surgeons.^(Core)
- 2.11.d.6. Alternative qualification exceptions may be made on a case-by-case basis.^(Core)

1. Describe the Review Committee's rationale for this revision:
With this revision, the Review Committee seeks to clarify the number and types of faculty members that are required to be identified on the faculty roster or as core faculty members.
2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?
The proposed revision will ensure that both the independent and integrated programs have an appropriate number of board-certified faculty members in the primary specialty and/or required foundational specialty so that the program has sufficient resources to meet its educational responsibilities. In order to ensure adequate teaching, supervision, and evaluation of the residents' academic progress, the Review Committee has further clarified the minimum requirement for the number and type of core faculty members based on program size and format.
3. How will the proposed requirement or revision impact continuity of patient care?

Setting a minimum number of program faculty members and core faculty members should enhance education by ensuring that an adequate number of faculty members are involved in the clinical supervision and education of residents.

4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?

Depending on the program size and the makeup of the current faculty roster (i.e., number of faculty members and areas of board certification), the requirements may require additional resources.

5. How will the proposed revision impact other accredited programs?

There should be no impact on other accredited programs.

Requirement #: **3.5.e. – 3.5.i.**

Requirement Revision (significant change only):

3.5.e. Resident transfers into an integrated vascular surgery program must fulfill the curricular requirements outlined in 4.10. – 4.12. ^(Core)

3.5.f. The accepting program must ensure that the transferring resident will be eligible to fulfill curricular requirements for ABS or AOBS certification in vascular surgery. This would include transfer of eligible operative logs. This must be completed prior to accepting the transferring resident. ^(Core)

3.5.g. Transfers into an independent vascular surgery program are not permitted. ^(Core)

3.5.h. Transfers at the PGY-5 level into an integrated vascular surgery program are not permitted. ^(Core)

3.5.i. Programs must obtain prior approval from the Review Committee before accepting transfers. ^(Core)

1. Describe the Review Committee's rationale for this revision:

With this revision, the Review Committee intended to clarify the requirements for transfer into both independent and integrated programs. The clarification that the transferring program is responsible for ensuring that the resident meet the curricular requirements of the program provides additional flexibility to programs to allow individualized pathways to residency/fellowship completion while ensuring that all requirements are met.

2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?

This revision should ensure that transfer residents meet all program requirements.

3. How will the proposed requirement or revision impact continuity of patient care?

This revision should have no impact.

4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?
The revision should require minimal additional program-level resources, as the program director ensures that transferring residents meet all curricular requirements. However, with the clarification, there should be some efficiency of resources for both the relevant board and the Review Committee when processing transfers.
5. How will the proposed revision impact other accredited programs?
This revision should have no impact.

Requirement #: **4.6.d.**

Requirement Revision (significant change only):

- 4.6.d. Residents must demonstrate an understanding of and the ability to convey safety and relative risk concepts to patients, patients' families, and the other members of the health care team regarding benefits and hazards of ionizing radiation, therapeutic, and diagnostic interventions, including pharmaceuticals and invasive and non-invasive procedures. ^(Core)

Specialty-Specific Background and Intent: Given the inherent use of ionizing radiation in many vascular procedures, guiding principles of radiation safety, such as ALARA [as low as reasonably achievable] are a foundational element of vascular surgery education.

1. Describe the Review Committee's rationale for this revision:
The Review Committee notes that the use of ionizing radiation, as well as therapeutic and diagnostic interventions, is integral to many vascular procedures. The addition of this requirement ensures that residents are exposed to appropriate education on the use, risks, and rewards of such therapies and ensures that they are adequately able to convey safety and relative risk concepts to patients, patients' families, and/or the health care team.
2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?
This should improve resident education, patient safety, and care quality.
3. How will the proposed requirement or revision impact continuity of patient care?
There should be no impact.
4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?
The requirement may require the program to provide additional curricular resources to ensure that the appropriate education is provided.
5. How will the proposed revision impact other accredited programs?
There should be no impact.

Requirement #: **4.11.c., 4.11.e. – 4.11.e.3.**

Requirement Revision (significant change only):

- 4.11.c. The curriculum for each resident must include ~~18~~12 months of ~~core~~foundational surgical educational experience, which are, ~~which may include:~~ defined as experiences in general surgery, ~~cardiac surgery, thoracic surgery, congenital cardiac surgery, cardiothoracic surgery, anesthesia, critical care, urology, gynecology,~~ neurological surgery, plastic surgery, burn surgery, trauma, ~~surgical critical care,~~ pediatric surgery, abdominal and alimentary tract surgery, ~~basic and advanced laparoscopic skills,~~ head and neck surgery, ~~and~~ endocrine surgery, surgical oncology, orthopaedics, and transplantation. ^(Core)
- 4.11.e. The curriculum for each resident must include 12 months of ~~documented~~ educational experiences that may be a combination of: ^(Core)
- 4.11.e.1. a maximum of six months of vascular surgery-related rotations (e.g., ~~“vascular medicine” cardiology, cardiovascular medicine (diagnostic and/or interventional), radiology (diagnostic and/or interventional) interventional radiology, podiatry, physical medicine and rehabilitation, nephrology,~~ dedicated research); ^(Core)
- 4.11.e.2. a maximum of ~~six~~ 12 additional months in ~~additional core~~ foundational surgery rotations; ^(Core)
- 4.11.e.3. a maximum of 12 additional months of core vascular surgery rotations; ~~and,~~ ^(Core)

1. Describe the Review Committee’s rationale for this revision:
The Review Committee has provided programs additional flexibility in how they meet curricular requirements. Allowing programs to reduce, but not requiring a reduction in, the amount of foundational educational experience allows each program to innovate and/or personalize the program to the institution.
2. How will the proposed requirement or revision improve resident/fellow education, patient safety, and/or patient care quality?
This revision will allow maximal flexibility for programs to determine the best curricular design to achieve competent vascular surgeons.
3. How will the proposed requirement or revision impact continuity of patient care?
There should be no impact on continuity of care.
4. Will the proposed requirement or revision necessitate additional institutional resources (e.g., facilities, organization of other services, addition of faculty members, financial support; volume and variety of patients), if so, how?
If programs choose to reduce their current number of foundational months, there may be additional resources required as new rotations and experiences are added into the curriculum.

5. How will the proposed revision impact other accredited programs?
If a program chooses to reduce the general surgery months to the minimum, there may be an impact on the general surgery residency program.