

# GUIDEBOOK

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## How to Develop A Vascular Surgery Training Program

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*A collaborative work from the Association of Program  
Directors in Vascular Surgery  
and the Society for Vascular Surgery.*

# APDVS/SVS Guidebook

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#### Disclaimer

This Guidebook is a collaborative work from the Association of Program Directors in Vascular Surgery and the Society for Vascular Surgery. It is intended to help organizations develop new vascular surgery training programs. Existing vascular surgery training programs also may find it useful as they contemplate program expansion, or as a refresher for reaccreditation purposes. The Guidebook is a reference source only and is not intended to be a substitute for information and/or assistance from the Accreditation Council for Graduate Medical Education or the Vascular Surgery Board of the American Board of Surgery. This version reflects the revised ACGME-Program Requirements for GME in Vascular Surgery (effective July 1, 2018).

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## INTRODUCTION

### **Do we have a manpower shortage?**

Yes. In 2015, there were 3,358 active vascular surgeons in the United States that participated in patient care.<sup>1</sup> This calculated to be 95,717 people per active vascular surgeon, among the largest ratio of all medical subspecialties in the country.<sup>2</sup> The shortage is compounded by the fact that 40.9% of practicing vascular surgeons are over the age of 55.<sup>3</sup> As our population continues to increase in size and age, there is a dramatic increase in the predicted vascular workload in the future. The only way that we can ensure the delivery of high quality care to patients is to provide a sufficient number of well-trained vascular surgeons in the future.

### **Do we need more training programs?**

Yes. Now more than ever, the choice to become a vascular surgeon fulfills an acutely growing need created by the aging population in the United States and beyond. According to the U.S. Census Bureau, from 2000 to 2030, there will be a near doubling of individuals aged 65 years and older, from approximately 35 million to an estimated 71 million; the number of persons age 80 years and more will more than double in the same time period – from 9.3 to 19.5 million. Talented, dedicated, skilled vascular surgeons will be needed to meet this urgent need, as well as the established vascular training programs to support them.<sup>4</sup>

### **Are there jobs for more graduates?**

Yes. The job market for vascular surgeons remains strong. The starting salaries for new graduates have increased substantially over the past few years and there are multiple job openings per graduating fellow. In addition, more graduates are now being hired as hospital employees. This will likely continue to grow as additional data continue to demonstrate the overall profitability of a comprehensive vascular program to hospital systems. As such, there is an anticipation of a higher demand for trained vascular specialists in the future.

### **What are the benefits for me?**

You will have the opportunity to train and mold the next generation of vascular surgeons. There are also potential financial rewards for you and your hospital. A training program may increase the ability of an institution to care for more complex patients and a higher volume of patients. The creation of a program may also raise the prestige of the institution as it becomes a training site for new vascular specialists and potentially lead to creation of a tertiary vascular referral service.

### **How do I know if we are even qualified to start a program?**

A vascular surgery program may be sponsored by any institution with sufficient clinical volume and dedicated faculty expressing willingness to sponsor a graduate medical education program. Having an ACGME-accredited general surgery residency program is a benefit; while it makes the process easier but it is no longer a requirement. There must be a sufficient number of faculty members with documented qualification (Certification in Vascular Surgery or equivalent) to establish and maintain an environment of inquiry and scholarship. Each trainee must perform a minimum of 500 operations, of which 250 are major vascular reconstructive procedures, during their training. To satisfy the requirement for the RPVI test they must also interpret a minimum of 500 Non-invasive

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<sup>1</sup> <https://www.aamc.org/data/workforce/reports/458490/1-2-chart.html>

<sup>2</sup> <https://www.aamc.org/data/workforce/reports/458490/1-2-chart.html>

<sup>3</sup> <https://www.aamc.org/data/workforce/reports/458494/1-4-chart.html>

<sup>4</sup> <https://vascular.org/career-tools-training/specialty-glance>

vascular laboratory diagnostic exams. For further details, please refer to the “Qualifying Criteria”.

### **How much time will the program director have to dedicate to the Training Program?**

The sponsoring institution and the program must assure that the program director has sufficient protected time and financial support for his or her education and administrative responsibilities to the program. This very much depends on the size of the contemplated program and the availability of competent coordinator support. Although continuous monitoring and assessment activities are required, the bulk of time commitment is concentrated around site visits, document preparation, and recruitment of new trainees. It is difficult to estimate accurately the time required, but it is usually about 2-8 hours/month for program maintenance and significantly more during document preparation and recruitment periods. Most vascular program directors, of even very large programs, remain fully active practicing surgeons with no significant drop in productivity. They must however be willing to dedicate enough time for the activities of the program when needed.

### **Where do I start?**

There are numerous resources available to you. You can review this online handbook for further information that you may find helpful. The Association of Program Directors in Vascular Surgery (<https://vascular.org/apdvs>) has numerous Program Directors from existing programs that have volunteered to work with new programs. The Society for Vascular Surgery (<https://vascular.org/>) also has consultants available to provide assistance to new programs. The ACGME Program Requirements for Graduate Medical Education in Vascular Surgery should be referenced as well (<https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450VascularSurgery2018TCC.PDF?ver=2018-06-19-094904-543>).

## VASCULAR SURGERY TRAINING PATHWAYS

### **A. Integrated Program or 0+5 track**

The Vascular Surgery Integrated track is a five-year (60 months) curriculum, open to graduates with an MD or DO degree from an institution accredited by the Liaison Committee of Medical Education (LCME) or by the American Osteopathic Association (AOA). 30 months are devoted to vascular surgery and 18 months to core surgical training. The remaining 12 months may include any combination of: additional vascular surgery rotations, no more than 6 months of 'vascular surgery-related' rotations (ie: vascular medicine), no more than 6 months of dedicated research. The Chief Residency year must be entirely spent on the Vascular Surgery service at an integrated site. All 5 years are under the authority and direction of the Vascular Surgery Program Director. Graduates are eligible for board certification in vascular surgery only.

- ***When did these programs start?*** The first class enrolled in July 2007
- ***How are students selected?*** Mostly through the Student Matching Program in March of their senior year.
- ***How many programs are there?*** As of October 2018, 55 accredited programs were registered with ERAS. There were 60 positions offered during the 2018 NRMP Main Residency Match.
- ***Is there a real interest from Medical Students in this training model?*** The interest in this paradigm is extremely high making Vascular Surgery an extremely competitive specialties in the student match. There were 91 applicants for 60 positions available through the 2018 NRMP Main Residency Match. The 2017 AAMC Report on Residents reported test scores and experiences of the 2016-17 first-year residents in vascular surgery as follows: average MCAT score of 31.9, average Step 1 score of 237.4, average Step 2 score of 248, and an average of 10 abstracts, presentations and publications.
- ***Are these programs open to graduates of International Medical Schools?*** Yes. Graduates of schools of medicine from countries other than the United States or Canada can apply after certification by the Education Commission for Foreign Medical Graduates (ECFMG).
- ***What does core surgical training refer to?*** Core surgical education consists of 18 months of training and is intended to provide trainees with knowledge in basic surgical principles. It typically includes: pre- and post-operative evaluation and care, critical care and trauma, basic technical experience in skin and soft tissue, abdomen and alimentary track, airway management, laparoscopic surgery and thoracic surgery. Additional rotations, depending on an institution's particular strengths, can be included in these 18 months as long as the rotation is demonstrated to be relevant to physicians caring for patients with vascular disease.
- ***Can research be part of the training?*** No more than six months of the five-year program may be dedicated to research. Additional non accredited years may be included at the program's discretion.
- ***Do Graduates take the same Board exam as fellows?*** Yes; they take the same Qualifying and Certifying exams. Starting in 2014, graduates of all training pathways must first pass the RPVI (Registered Physician in Vascular Interpretation) examination before they sit for the Vascular Surgery Qualifying examination (QE).
- ***Can Residents move between programs?*** Yes. But at a minimum, the last two years

must be in the same institution.

- ***Is Attrition a problem with this track?*** Annual attrition rates from integrated vascular surgery are reported as <1%, this is well below the average reported by other surgical tracks (ie: 3-5% rate for general surgery residency and 1-3% for integrated cardiothoracic residency training).

- **The Early Specialization Program (ESP) or 4+2 track**

This track is available to residents in programs with ESP accreditation. It allows general surgery residents with an interest in vascular surgery to enter into a vascular surgery training program earlier than the traditional 5+2 pathway. Residents commit to the training paradigm during their second or third year of training. All training has to be completed within the same institution with ESP accreditation. The first four years are essentially spent on general surgical rotations with the final two years spent in vascular surgery. There is no traditional chief (fifth) year of general surgery; chief rotations are performed during the fourth year of general surgical training. Graduates are eligible for General Surgery and Vascular Surgery certification.

- ***How long has this track been available?*** Since 2003.
- ***How much total vascular time is spent in this model?*** During the first four years of general surgical training, the majority of time is spent on general surgical rotations. Rotations in vascular surgery however, are requisite during the first two years of training and allow residents to develop an interest in vascular surgery. Since the general surgical training is condensed into 4 years, the third and fourth years of training are spent primarily gaining operative skills in general surgery so as to meet the requirements for board eligibility. The final 2 years of training in the ESP track are spent solely in vascular surgery.
- ***Does this track have to be filled every year?*** No. The track is filled only when an appropriate candidate is present within the general surgery program at the same institution.
- ***Is this track still open for new programs?*** Yes

- **The Traditional Fellowship Pathway or Independent 5+2 track**

Traditional fellowships require the completion of an accredited General Surgery training program with five clinical years, followed by two years of vascular training. Graduates are eligible for board certification in both General Surgery and Vascular Surgery.

- ***When did accredited fellowships start?*** One year fellowships started in 1982 and two year fellowships in 2004.
- ***Are there any one year fellowships left?*** No, two years became mandatory in 2007 to allow for the expanding endovascular requirements.
- ***How are fellows selected?*** Most are selected through a fellowship match in May of their fourth clinical year of General Surgery.
- ***How many programs are there?*** As of October 2017, 105 accredited programs exist with 250 current positions on duty.
- ***Are all the positions filled every year?*** It is variable but most positions are. In some years not enough general surgery candidates were available to fill all the positions but there was an excess of applicants the last several years. Some programs that started an Integrated Program are ultimately closing their fellowships. Competition for fellowship positions is expected to increase.
- ***Can research be part of the training?*** No more than six months of the two-year program may be dedicated to full time research.
- ***Can Graduates certify in Vascular Surgery without certifying in General Surgery?*** Yes. A primary certificate in vascular surgery took effect in July 2006, giving vascular surgery a board certification pathway independent of general surgery. Whereas in the past, successful completion of the Surgical Principles exam or the General Surgery Qualifying exam was a prerequisite for vascular surgery certification, as of 2014, this is no longer the case. Graduates of independent and ESP pathways must, however, have an approved application to the General Surgery Qualifying Exam, meeting all the application requirements.
- ***Do Graduates also have to take the RPVI test before the Qualifying Vascular Surgery Board exam?*** Yes, starting in 2014.

Complete details can be found in **ACGME's Program Requirements for Residency Education in Vascular Surgery.**

([http://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450\\_vascular\\_surgery\\_2017-07-01.pdf?ver=2017-05-19-152030-700](http://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450_vascular_surgery_2017-07-01.pdf?ver=2017-05-19-152030-700))

## PROGRAM DESIGN

The majority of programs fall into two basic types: Independent [usually referred to as fellowships or (5+2)] or Integrated [usually referred to as residencies or (0+5)]. There is a third option, the ESP, which relies on modification of an existing Independent program where a general resident can complete 4 years of general surgery then starts their vascular fellowship or (4+2).

Designing any training program requires assessing the strengths and weaknesses of your own institution and supporting services in your area. Obviously you need to have adequate vascular faculty and cases to support the chosen number of trainees. A review of case logs at potential sites is one of the first steps needed to ensure adequate case volume and complexity to begin a program.

### **How do I pick what type of program is appropriate for our institution?**

- **Number of Faculty:** You are required to have 1 faculty for each trainee, not counting the program director (PD). At a minimum, one surgeon on the faculty, in addition to the program director, must be certified by the Vascular Surgery Board of the American Board of Surgery (VSB), or possess suitable equivalent qualifications as determined by the Residency Review Committee. The remainder of the faculty are not required to be certified, though it is strongly preferred that they be certified or have equivalent credentials (usually suggesting either older surgeons, trained prior to certification, or international faculty who are now FACS). A non-surgeon can be listed as a teaching faculty if there is a good rationale for his or her involvement (for example an interventional radiologist at a site where surgeons do not perform an adequate number of interventions). Examples:
  - Independent(5+2 program): You would need at least 3 vascular faculty to train 1 fellow per year (one faculty for each trainee and one faculty acting as a PD). In order to train 2 fellows per year you would need at least 4 teaching faculty members and a PD (5 total).
  - Integrated: For an integrated program, you need at least 6 teaching faculty (including the PD) to train 1 resident per year, and 11 to train 2 per year. Integrated programs can list some of the core surgery teaching faculty on their vascular program application since 24 months of training are in core rotations.
  - ESP (4+2 program): This format requires an existing independent (5+2) program, as well as coordination between the general surgery and vascular PDs. An application is made for each general surgery (GS) resident that the program would like to include in the ESP format. This allows the chief year to be double counted - permitting the trainee to sit for both boards while completing the program in 6 instead of 7 years.
- **Rotations:** Certainly, a traditional independent program is easier to initiate than an integrated program for a multitude of reasons, including financial support from the institution, no requirement for an associated general surgery residency, and the ability to create the program without having to negotiate as closely with other, non-vascular faculty.
  - Independent: The exact mix and distribution of rotations varies between programs. For fellowship programs (5+2), the options include separating in-patient and out-patient experiences/procedures, or separating rotations by sites (most common). It is feasible to have all rotations at 1 institution, or to have rotations at multiple sites. If multiple sites are selected, the PD needs to justify the reason for the rotation outside

of the primary site (i.e., VA rotation – allows trainee greater independence in decision making; Community Hospital rotation – may expose trainee to large volume of open abdominal cases, etc.). If all rotations are at 1 site, the PD will need to describe the interaction between multiple trainees, and to show adequate volume to meet all required cases in each of the critical areas.

- **Integrated:** The rotations for integrated programs are more complex.
  - The Vascular PD must work with the general surgery PD, and with other programs (i.e., cardiology, vascular medicine, hematology, radiology, cardiothoracic surgery, etc.) to create the desired program. The core surgery rotations can be completed in the first 2, 3 or 4 years, at the discretion of the PD. The decision on how to integrate will depend, to a great extent, on the relationship between the general surgery and vascular surgery PD. The vascular PD is responsible for the vascular residents during the entire 5 years of training, even during their general surgery rotations. It is critical that the vascular PD be able to incorporate rotations that he/she feels are important.
  - The vast majority of programs have primarily core surgery rotations in the first year. Most programs will have at least some vascular experience in the 1<sup>st</sup> year as well, in order to maintain the feeling of “belonging” for the resident, and in order for the faculty to be able to better assess the trainee. Nonetheless, maintaining a first year that looks fairly similar to a general surgery first year, also allows for the possibility of recruiting a second year resident to fill a gap in the event of problems/ change of career plans for the first year resident (this would require approval by the RRC).
  - The PD should first look at the faculty and programs available at their institutions, and then sit with the rest of the vascular faculty to determine what rotations they feel are important in the education of the resident. Rotations have included: general surgery, surgical oncology, colorectal surgery, emergency/trauma surgery, surgical critical care, plastic surgery, anesthesia, cardiothoracic surgery, transplant surgery, and pediatric surgery. Non-surgical rotations have included: cardiology, hematology, vascular medicine, interventional radiology, radiology or imaging rotations, vascular lab, vein center rotations, research (up to 6 months maximum- unless an additional, non- accredited year is planned), and simulation. Residents must complete, at minimum, the last two years of vascular surgery education in the same institution. The last year of the program must comprise chief resident responsibility on the vascular surgery service at an integrated site.
- **Support:** The program must have adequate clerical and technical support for the residents, in addition to adequate faculty and case volume. The institution must also have appropriate resources for resident education, such as access to libraries, publications, electronic databases, etc.
  - **Independent:** In Independent fellowship programs, residents are required to perform a minimum of 250 major vascular procedures, and must meet minimum requirements in the defined categories (abdominal, cerebrovascular, peripheral vascular, complex, endovascular diagnostic, endovascular therapeutic, endovascular aneurysm).

- Integrated: In an integrated program, residents must perform a minimum of 500 cases, including at least 250 major vascular procedures, including the minimum required defined categories.
- **Relationship with general surgery:**
  - The existence of a General Surgery program in the same institution is no longer a requirement for presence of and *Independent Vascular Fellowship*. However, the capability to perform an adequate breadth and volume of open and endovascular procedures to support the program must be demonstrated.
  - The vascular program in any format should allow the general surgery residents to obtain their mandatory minimum vascular exposure. This has been reduced significantly to 50 cases and no longer includes index cases. It allows endovascular procedures to be counted as well as amputations, hemodialysis access and vascular exposures. According to SCORE, general surgery residents are supposed to be competent to deal with amputations, AV access, and venous disease.
  - Independent Programs: Although a vascular surgery fellow (5+2) and a chief resident in general surgery may function together on a service with the same junior residents, this arrangement is not desirable as they may not have primary responsibility for the same patients. If chief residents are on the same service as the fellow, it should be clearly spelled out in the application how the two will interact. A fellow can be on the same service as a fourth year or more junior general surgery resident with no restrictions. The fellow will also ideally interact with junior general surgery residents and students, and be involved in educating them.
  - Integrated Programs: There is clearly a closer relationship between the two programs with this format. The 0+5 resident will rotate on general surgery rotations alongside the general surgery residents. It is in the best interest of the trainee and program to maintain a good relationship to ensure good treatment of the vascular resident while on general surgical rotations. While there is no required case volume for core surgical cases currently, this will continue to be assessed by the American Board of Vascular Surgery and the RRC.

### **How many sites or hospitals can be used in the program?**

There is no minimum, nor any maximum number of institutions that can be used in a program. However, the PD must oversee and ensure the quality of didactic and clinical education at all participating sites. The PD should normally designate a site director for each hospital. There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment.

The PD must provide justification in the application for all participating sites.

### **What is a Program Letter of Agreement (PLA)?**

The PLA is a signed agreement between the program and an institution that is part of the training program. It identifies the faculty with educational and supervisory responsibility for the trainees at the site, and specifies their responsibilities for teaching, supervision, and evaluation of residents. It also specifies the duration and content of the educational experience, and states policies and procedures that govern resident education during the rotation outside of an accredited program's sponsoring institution.

A PLA is required for all sites except as noted: If two sites inclusive of the primary training site operate as one entity (governed by one Board of Directors) neither a master affiliation agreement nor a PLA would be needed. PLAs are not necessary if the site is under the governance of the sponsoring institution or is an office of a physician who is a member of the sponsoring institution's teaching faculty/medical staff: faculty patient care offices; private physicians' offices (volunteer faculty); ambulatory surgical centers; diagnostic centers, e.g. imaging, laboratory, etc.; treatment centers, e.g. dialysis, rehabilitation, etc.

Rotations to sites that are not governed by the sponsoring institution or that occur in offices of physicians who are not members of the sponsoring institution's faculty/medical staff require PLAs.

The PLA must be renewed at least every 5 years and more frequently if there are changes in the program.

Additional information on PLAs and Master Affiliation Agreements (MLAs) can be found online in ACGME's FAQ on MLAs and PLAs:

<http://www.acgme.org/Portals/0/PDFs/FAQ/CommonProgramRequirementsFAQs.pdf>

### **What is the difference between an “integrated” and an “affiliated” site?**

There has been confusion over the years regarding affiliated and integrated. The term affiliated has been eliminated from the program vocabulary.

Integrated sites: All sites which have *required rotations* are considered integrated sites. The PD must appoint the faculty involved in teaching the resident, determine all rotations and assignments of residents, and is responsible for the overall conduct of the educational program at the integrated site. There must be a written agreement between the sponsoring institution and the integrated site stating that these provisions are in effect.

Integrated sites should be geographically close to allow residents to attend joint conferences at a central location. If sites are remote, an equivalent program of lectures and conferences at the integrated site must be documented.

*You cannot have integration with another sponsoring institution with the same specialty residency program (i.e., if you are unable to work with your General Surgery PD, you cannot integrate with another institution's general surgery program). You can integrate however if the program is not available at your institution (i.e., you have no cardiology program, and you integrate with another program in the same city which has an accredited cardiology program).*

All integrated sites need to be approved by the RRC, listed in the ADS system and application as integrated sites, and must have a PLA as needed. While there is no limit to the duration of rotations at integrated sites, *it is presumed that the majority of educational experience will occur at the primary clinical site.*

### **What is a sponsoring institution, and an affiliation agreement, and when is it required?**

Sponsoring Institutions: Residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) must operate under the authority and control of one Sponsoring Institution. Institutional responsibility extends to resident assignments at all participating sites. A Sponsoring Institution must be in compliance with the ACGME Institutional Requirements and

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must ensure that all accredited programs are in compliance with Institutional, Common and specialty-specific Program Requirements, and ACGME Policies and Procedures. A Sponsoring Institution's failure to maintain accreditation will jeopardize the accreditation of all its sponsored programs.

The Sponsoring Institution retains responsibility for the quality of GME, including when resident education occurs in other sites. Current master affiliation agreements must be renewed every five years and must exist between the Sponsoring Institution and all of its major participating sites.

In all likelihood your institution already sponsors GME programs and will be the sponsoring institution for a new Vascular Program. The GME office at your institution can be a great resource in helping to develop your program. A Designated Institutional Officer (DIO) has the overall responsibility of the office and must sign off on the application. These individuals are very knowledgeable and will guide you through the general processes.

Affiliation Agreements: Affiliation agreements are the overriding agreements between the sponsoring institution and all participating sites (also referred to as institutional agreements or MAAs) involved in residency education. The Institutional Requirements do not stipulate what needs to be covered in master affiliation agreements.

"Major participating site" are sites to which all residents in at least one program have a required rotation, and for which a master affiliation agreement must be in place. To be a major participating site in a two-year program, all residents must spend at least four months at the site across both years of the program. In programs of three years or longer, all residents must spend at least six months at the site across all years of the program.

In contrast to master affiliation agreements, PLAs originate at the program.

### **What are the requirements for each site?**

Each participating site must have a PLA signed. At each participating site, there must be a sufficient number of faculty with documented qualifications to instruct and supervise all residents at that location. Each site must have a local director, appointed by the PD, to oversee the residents' education at that site.

Each site must provide appropriate resources for trainees (call rooms, library, food services, etc.)

### **What are the requirements of a program director?**

There must be ONE Vascular Surgery Program Director, regardless of the number of paradigms approved at an institution. Associate program directors however are common and help support the educational and administrative roles of the PD. The GMEC of sponsoring institution as well as the RRC must both approve the PD who must be appointed for the length of the program plus 1 year (3 years for independent program, 6 years for integrated). The PD should have educational and administrative expertise, as well as certification in the specialty by the American Board of Surgery. The PD must be currently licensed and have medical staff appointment. The PD must demonstrate adequate scholarly activity.

**In addition, they must be five years out from completing fellowship, or have worked as an associate PD for 3 years.**

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The PD must devote his principal effort to the management/administration of the program. The PD is responsible for maintaining an educational environment conducive to educating the residents. The PD must: oversee quality of didactic and clinical education at all sites, appoint a local director at each participating site who is responsible for resident education, approve selection of faculty, evaluate faculty, monitor resident supervision, prepare and submit all information requested by the ACGME, including the application form and annual resident updates to ADS, and must ensure that this information is accurate annually. The PD also must provide each resident with semiannual evaluations, ensure compliance with grievance and due process procedures, verify resident education, implement policies and procedures for and monitor duty hours, distribute policies to residents and faculty, monitor residents for excessive service demands or fatigue, and alter schedules if needed, ensure back up support systems when needed, comply with institutional policies for selection, evaluation, promotion, and disciplinary action and resident supervision. In order to complete this work, it is recommended that they have 20% protected time.

The PD also must obtain approval from the GMCE/DIO prior to submission of changes, new applications, changes in resident complement, major changes in program structure, progress reports to the RRC, and all responses to proposed adverse actions to the ACGME.

**Do I need a dedicated program coordinator and who will pay for that position?** The program coordinator (PC) is responsible for assisting the PD in the running of the program. This individual is instrumental in helping to put together the application and gathering data (i.e., faculty CV, case logs from hospitals, etc.). This individual will also assist with communication with the trainees (ensuring compliance with ACGME requirements – i.e., filling out appropriate surveys, maintaining files, facilitating recruitment, reminding faculty and trainees about evaluation forms, documenting annual meeting discussions, etc.).

The need for a dedicated program coordinator depends on the size of the contemplated program. For large programs with both a fellowship and integrated residencies and several trainees, it is ideal to have a dedicated PC. Most programs however, especially smaller fellowships will either share a PC with other programs, or have a coordinator who also has other administrative duties. The advantage of sharing a PC is shared costs and the potential to obtain a higher quality experienced assistant rather than just having a secretary act as the PC. If you plan on sharing a PC, it may be better to share with similarly sized programs, i.e., other fellowships or small residencies, rather than with a large program, where you may be viewed as of lesser importance due to numbers of trainees. Proper planning is important as the work of the PC can be significant around the time of site visits and recruitment.

Compensation: How this individual is compensated will depend on the program – some divisions will have complete control of finances, and will finance the PC out of divisional funds, others will have to go to the chair of general surgery to request support, others will find support from the institutional GME office or from the hospital. When you negotiate a new program, it is important to discuss these issues with the GMCE and DIO or department chair or chief of your division at the onset. Once you begin a program without a dedicated PC, it will be much more difficult to convince others of the need to financially support a coordinator at a later date. Some of the indirect dollars for resident education should support this position. However, many institutions are already over the cap, so this argument may or may not be successful.

### **Who will help me locally?**

The first place to go locally would be your local GMCE office. The DIO can also provide support.

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Typically, there are people in the GMEC office who are adept at putting together applications, and have helped develop programs and negotiate with hospitals. The local/institutional program directors' committee can also be of significant help, as these are your colleagues in other fields who are running into the same issues that you are or will have to deal with (i.e. the problem resident).

### **How Does the Next Accreditation System (NAS) affect program requirements since implementation in July 2014?**

Following initial program accreditation by the ACGME, the Residency Review Committee in Surgery (RRC-S) will, in subsequent years, monitor key performance measures to determine programmatic effectiveness and value. Data points derived from the resident and faculty surveys, ABS QE and Certifying Examination (CE) performance by program graduates, and operative and case-log data will determine program accreditation status. The program must also submit on a yearly basis to the ACGME program information via the ADS (Accreditation Data System). This includes reports of trainee development as measured using the "Vascular Surgery Milestones." Site review intervals will extend to ten years as long as the program continues to meet performance goals. The NAS will also eliminate the program information form (PIF) preparation requirement for program re-accreditation. Prior to the once-a-decade site visit, it is expected that the programs will be conducting at least yearly self-studies to consider accomplishments and opportunities for improvements. (Excerpted from Nasca TJ et al. The Next GME Accreditation System - Rationale and Benefits. N Engl J Med 2012;366:1051-1056).

### **What resources can APDVS provide?**

APDVS has an annual meeting that is a good source of information for new, or potential program directors. The APDVS has also organized a group of program coordinators in vascular surgery that meets simultaneously with the APDVS annual meeting. This is an excellent source of information for a new PC.

- APDVS can provide you with sample, good quality 'program information form' (PIF) for your application for a new accredited residency program. While you do need to tailor the PIF to your own site, viewing successful PIFs can clarify issues that may not be entirely clear. Please refer to the Sample PIFs/Polices section for more information.
  - Volunteer mentors (other PD) are also available via APDVS, to answer questions that you may have in either planning or implementing your program. Please refer to the Resources/Contacts section for more information.
  - APDVS is working at a national level on helping to develop the curriculum, as well as simulation opportunities for our trainees.
  - APDVS provides a CD on noninvasive vascular lab lectures, which is available to the programs.
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## QUALIFYING CRITERIA

### **Do I need to know a comprehensive breakdown of our caseload at the time of program application?**

Yes, in the online application there is a section under Patient Care called, "Institutional Operative Experience," which requires a listing by defined operation (e.g., Open Repair Infra-renal Aorto-Iliac Aneurysm Repair) requiring the number of patients for which the procedure was performed over the last year. The numbers are further subdivided by site of care and whether the operations are currently done by general surgery or vascular surgery and what cases would be available for a new vascular surgery resident. This is important since vascular surgery residents are required to have performed a minimum number of cases to complete their training. The information can be found at the following link:

<https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450VascularSurgery2018.pdf?ver=2018-06-19-094541-077>

### **How many cases are sufficient for a single resident position?**

"In an integrated program, residents should perform a minimum of 500 operations, to include 250 major vascular reconstructive procedures that reflect an adequate representation of current trends, as well as a breadth and balance of experience in the surgical care of vascular diseases. In an independent program, residents should perform a minimum of 250 major vascular reconstructive procedures that reflect an adequate representation of current trends as well as a breadth and balance of experience in the surgical care of vascular diseases." These are quotes taken from the Vascular Surgery Program Requirements found at:

<https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450VascularSurgery2018.pdf?ver=2018-06-19-094541-077>

### **What if we do not do enough endovascular or open cases?**

There is a minimum number of cases required in broad categories as noted in the resident case log:

Abdominal 30, Cerebrovascular 25, Peripheral 45, Complex 10, Endovascular diagnostic 100, Endovascular therapeutic 80 and Endovascular aneurysm repair 20. Most current vascular practices with sufficient number of teaching faculty will have adequate numbers for training. If the numbers are inadequate, the program director would have to make provisions to provide such cases within their training paradigm. Vascular Surgery Defined Categories Minimums:

[http://www.acgme.org/Portals/0/VS\\_CatMins.pdf](http://www.acgme.org/Portals/0/VS_CatMins.pdf)

### **Do I need to hold in reserve some cases for general surgery residents?**

General Surgery resident case requirements in Vascular Surgery have recently been increased. As General Surgery Program Directors have the same responsibilities for the education of their residents as Vascular Surgery Program Directors do, each must be supportive of the other to provide the best education for all residents. There is currently a minimum case requirement of 50 cases in the area of vascular surgery as noted in the case log minimums with emphasis on dialysis access, anastomosis, repair, exposure and endarterectomy.

[https://www.acgme.org/Portals/0/440\\_GS\\_DefinedCategoryMinimumNumbers.pdf](https://www.acgme.org/Portals/0/440_GS_DefinedCategoryMinimumNumbers.pdf)

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### **Is there a specific requirement for vascular surgery staff available to teach the resident(s)?**

According to the Vascular Program Requirements, "In addition to the program director, there must be, for each approved residency position, at least one full-time faculty member whose major function is to support the residency program. These faculty appointments must be of a sufficient length to ensure adequate continuity in the supervision of the residents. At a minimum, one surgeon on the faculty, in addition to the program director, must be certified in Vascular Surgery by the Vascular Surgery Board of the American Board of Surgery (VSB), or possesses suitable equivalent qualifications as determined by the Review Committee."

### **Must funding be in place before I start a program?**

This is a sound starting point. Funding agreements and plans should be in place for resident salaries, PD time and coordinator support at a minimum. Although no specific funding amount is mentioned in the Program Requirement, "The institution and the program must jointly ensure the availability of adequate resources for resident education, as defined in the specialty program requirements." Typically, a component of the responsibility of the local GMEC and DIO is the financial viability of a new program. Past experience has shown that there will likely be little support for a new program if funding issues have not been fully addressed. Additional information on the general Accreditation of a Program can be found at:

<http://www.acgme.org/Specialties/Overview/pfcatid/24/Surgery>

### **References:**

- Application:  
<http://www.acgme.org/Specialties/Program-Requirements-and-FAQs-and-Applications/pfcatid/24/Surgery>
  - Program Requirements in Vascular Surgery:  
<https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450VascularSurgery2018.pdf?ver=2018-06-19-094541-077>
  - Application Instructions:  
<http://www.acgme.org/Portals/0/Documents/Common%20Resources/ApplicationInstructions.pdf?ver=2017-06-06-130246-257>
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## ROADMAP

This roadmap provides an estimate of a timeline to residency implementation, but each program's situation is unique and may follow a different chronology. Starting a new integrated residency or fellowship program in vascular surgery takes at least two years, but most programs take longer from "first concept to first cut."

### **Prior to applying to ACGME (6-24 months)**

The vascular surgery faculty, with the leadership of the program director, must develop their concepts for how to create a training program. Learning about the ACGME requirements, considering what other programs have done, and realistically assessing the educational assets and priorities of the sponsoring institution are important first steps. Support from a department chair and a good working relationship with other program directors are invaluable.

Institutional operative experience will be important to consider, as will the potential impact of a new training program on existing programs. Specifically, a new integrated vascular surgery residency is unlikely to be supported or approved by the ACGME if establishing the new program prevents residents in an existing surgery residency from meeting their requirements in vascular surgery.

- **Budget:** A budget should be drafted. The stipend and benefits for each resident can be estimated, but other costs to consider include educational materials, administrative personnel and supply costs, travel, and other expenses. Funding a new program can be problematic. Options include converting existing resident positions (from non-designated preliminary to integrated vascular surgery), funding support from affiliated institutions, or other funding sources. Success with funding will be highly dependent on the specifics of each institution's situation. The potential contribution of residents to clinical productivity should be considered. Institutions receive full support for inpatient resident activities. An important point to make to your local institution is that they will receive more support from federal funds by employing surgical trainees than other specialties that have a significant ambulatory component.
  - **Operative Case Volume:** It will be important to have detailed information about the operative case volume at your institution, including how many cases are currently done by residents and fellows. You will need to ensure that there will be sufficient material to support the proposed residency. Additional sites can provide additional case volume, but they must have appropriate faculty and administrative infrastructure to provide educational support.
  - **The Application Team:** The program director and the program coordinator are the primary team preparing an application for a new program. The program director should expect a substantial time commitment, though the actual time spent on program development will depend on the phase of the project, the timeline projected and the availability of suitable supporting staff. An average of 2-5 hours per week in the early phases is reasonable, but substantially more time should be anticipated during busy times. A program coordinator will have a varying time commitment depending on the size of the contemplated program, but a minimum of a 0.25 FTE is needed. New program directors and coordinators will need to identify internal and external resources to help with the process. Other program directors, the institutions' GME office, the APDVS, and others should be sought out.
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**Applying for ACGME accreditation: document preparation (3-12 months)** Preparation of an application, once the program is planned, is a time-consuming process that takes substantial time commitment by the prospective program director. The coordinator may take weeks to months to complete the documentation and to assemble the supporting documents. An experienced coordinator who has previously dealt with the ACGME is a great asset, but a new coordinator can complete the task, with appropriate support. Three to six months is a reasonable time estimate for this process, but it could realistically take more if there are institutional delays in reviewing and approving drafted documentation.

The ACGME lists the steps required to apply for accreditation:

1. Confirm that the sponsoring institution for your program has the requisite institutional accreditation. For most academic centers, this will be the case. There may be a need for institutional accreditation by the ACGME if the proposed sponsoring institution does not already have other GME programs or it has only one program.
  2. Review the accreditation requirements. There are two sets—the institutional requirements, and the specialty program requirements. Last updated in 2008, these are posted online:  
[http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/450\\_vascular\\_surgery\\_07012007\\_u07012008.pdf](http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/450_vascular_surgery_07012007_u07012008.pdf)
  3. Determine the deadline for submission. The list of review committee meeting dates is available on the ACGME website at:  
<http://www.acgme.org/acgmeweb/tabid/150/ProgramandInstitutionalAccreditation/SurgicalSpecialties/Surgery.aspx> Typically the Surgery RRC meets in November, February, and June. Generally, the closing date for the agenda precedes each meeting by at least 10 weeks, but you should contact ACGME for specific deadlines regarding new program applications.
  4. Complete the application form (previously referred to as a Program Information Form or PIF). On the ACGME website there are forms for each specialty and subspecialty. The Vascular Surgery form must be used and it must be the “For New Applications Only” version:  
<http://www.acgme.org/acgmeweb/tabid/150/ProgramandInstitutionalAccreditation/SurgicalSpecialties/Surgery.aspx>. This is a 14-page Word document that will be extensively expanded when completed.
  5. The form has specific instructions about how many copies to send, what attachments to include, and what to have ready for the site visitor. The application form must be complete and signed by the program director (PD).
  6. The application must be approved by your institution’s Graduate Medical Education Committee (GMEC) and signed by the Designated Institutional Official (DIO). Working with the GMEC and DIO during application preparation can help facilitate the subsequent formal review.
  7. Send the completed, GMEC-approved application form to the Review Committee for Surgery (address is listed on the application form). There is an application fee required, but the sponsoring institution will be invoiced after the application is processed. The PD and DIO will be notified when your application has been received. The submitted application must be complete. The only additional information that the ACGME accepts is updated  
program director/faculty CVs (e.g., to reflect recent ABMS certification), updated
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procedural data for the institution(s), and updated program letters of agreement (PLAs). This updated information must be received by ACGME staff at least 14 days prior to the site visit. If no site visit is required, this updated information must be received by no later than the agenda closing date for the review committee meeting. However almost all new programs should expect a site visit to be scheduled before accreditation can be granted.

The application requires at least a dozen specific attachments. Some of these may already exist in your institution, or they may be modifications of existing documents. Others, such as goals and objectives for all assignments at each level may be time-consuming to produce. The ACGME requires the submitted package include:

1. All Program Letters of Agreement (PLAs)
2. Policies and procedures for resident duty hours and work environment
3. Moonlighting policy
4. Overall educational goals for the program
5. Competency-based goals and objectives for all assignments at each educational level
6. Forms that will be used to evaluate residents at the completion of each assignment
7. Copies of tools the program will use to provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice
8. The form that will be used to document the semiannual evaluation of the residents with feedback
9. Blank copy of the final (summative) evaluation of residents, documenting performance during the final period of education and verifying that the resident has demonstrated sufficient competence to enter practice without direct supervision
10. Blank copy of the form that residents will use to evaluate the faculty
11. Blank copy of the form that residents will use to evaluate the program
12. Policy for supervision of residents (addresses residents' responsibilities for patient care and progressive responsibility for patient management and faculty responsibilities for supervision)

The program director is responsible for the completeness and accuracy of the application. Failure to provide the requested information in the format the ACGME expects can result in a delay in processing the application, citation(s), or an action other than accreditation. One challenge for new program directors, however, is figuring out exactly what the RRC wants and how. ACGME staff can address these questions.

For questions, the 2018 Surgery RRC staff contacts are:

- Executive Director: Donna L. Lamb, DHSc, MBA, BSN (312) 755-5499, [dlamb@acgme.org](mailto:dlamb@acgme.org)
  - Associate Executive Director: Cathy Ruiz, MA, (312) 755-5495, [cruiz@acgme.org](mailto:cruiz@acgme.org)
  - Senior Accreditation Administrator: Olivia Orndorff, MSLIS, (312) 755-7474  
[oorndorff@acgme.org](mailto:oorndorff@acgme.org)
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The Program Information File (PIF) and supporting documents are submitted to ACGME for review by the Residency Review Committee (RRC) for Surgery. The RRC meets three times yearly. The closing date for the agenda precedes each RRC meeting by at least 10 weeks.

The materials are to be sent to:

Donna Lamb, DHSc, MBA, BSN  
Executive Director, Review Committee for Surgery  
Accreditation Council for Graduate Medical Education  
401 North Michigan Avenue, Suite 2000  
Chicago, IL 60611

### **Preparing for a site visit (3-6 months after application submission)**

The ACGME tries to assign priority to the processing of new applications, but the process can be lengthy for programs requiring a site visit.

Site visit schedules are set a minimum of four months in advance of the date of the visit, and the site visit report must then be received by the Review Committee at least two months before the meeting for it to be reviewed.

For vascular surgery programs that have had a recent site visit for a vascular surgery fellowship and are in good standing, the RRC may not request an additional site visit as requirement for the review of an application for an additional integrated residency.

### **Review committee action and notification**

The ACGME will provide an initial notification to the program director and designated institutional official (DIO) the week after the RRC meeting that reviews the application form. The initial e-mail will have few details, but it will let you know what action has been taken. The options are:

1. **Initial Accreditation:** The application has been approved.
2. **Propose Withhold:** The committee has determined that the proposed program would not be in compliance with accreditation requirements. A rebuttal with additional information can be submitted for review at the next RRC meeting.
3. **Defer for a site visit:** If there had not been a site visit for the application, one may be scheduled.
4. **Denied:** This response is considered bad.

Formal notification about the application follows in a letter, which generally comes within a few weeks of the RRC action, but can take up to 60 days. The ACGME uses standardized language and format for these letters. Details about the terminology used are available at:

<http://www.acgme.org/acgmeweb/Portals/0/KeyStandard.pdf>

The ACGME notification will specify:

- The accreditation status of the program
  - Length of training; number of years of resident education the program is accredited to provide.
  - Maximum number of residents and number of residents per level of training
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- Effective date
- Approximate date of next site visit
- Accreditation cycle length. Initial accreditations are 3 years or less.

The letter will include a listing of “Areas Not in Substantial Compliance” (citations) mostly for existing programs. Each citation will include a descriptive heading, the actual institutional or program requirement for the area that is not in compliance and the Review Committee’s brief explanation of non-compliance. If no citations were identified by the Review Committee, this section will include a statement of commendation to the program or institution for demonstrating substantial compliance with the requirements without citation.

### **Implementing a newly accredited program (9-18 months)**

Once approved by the ACGME, a new program can participate in the Electronic Residency Application Service (ERAS) and the National Resident Matching Program (<http://www.nrmp.org/>). The institution’s GME office will be able to help get the new program signed up with ERAS and NRMP. Participation in the match is strongly encouraged but is not mandatory.

ERAS (<https://www.aamc.org/students/medstudents/eras/>) is a service of the Association of American Medical Colleges (AAMC) that transmits applications, letters of recommendation, transcripts and test scores, and other credentials from applicants and their dean’s office to program directors. Applications for a new program can be accepted outside ERAS, but use of ERAS is the *de facto* standard for most potential residents.

For the integrated programs, medical students apply for residency in the fall of their senior year. Interview season is generally December through February. If a new residency is approved by November, it is feasible to recruit, interview, and match a resident to start at the beginning of the next academic year. Match Day for the NRMP is in March of the same year as the appointment.

For the fellowship programs, residents match in the year prior to their final “chief” year of surgical training. The application cycles differs from the integrated residency with the interview season typically in the early spring. Match day for the NRMP is in May. Since residents match a year in advance, you will need to advertise your open resident position outside of the match if you want the fellowship to start in the same academic year it was approved for accreditation. If you plan to start the fellowship in the following academic year, you would follow the standard procedures with the NRMP.

An accreditation decision after the typical window for applications and interview will generally mean waiting until the following year to start, unless there is an identified internal candidate, a resident seeking an off-cycle start, or some other unusual situation. Appointments can be made outside the match to vacant positions beyond the first year of the program after approval by the RRC even in new programs.

There are many ways to advertise a new program. Soon after accreditation, the program will be listed on the ACGME web site. The AAMC lists program and annually updates details of approved residencies. Local, regional, and national meetings offer opportunities to get the word out about a new program. All approved programs are listed on the Association of Program Directors in Vascular Surgery (APDVS) website which also posts open positions on Vascular.Org.

It is important for each residency to have its own web site that provides a description of the program, contact information, and information on how to apply.

For integrated programs accredited during the Fall (October/November) RRC meeting, if they wish to participate in the same year's student match in March, the PD will need to contact the RRC by phone in order to have communication sent to the appropriate organizations to permit participation in the match. Similarly, for 5+2 programs accredited during the February RRC meeting, a call would be necessary, as the formal approval letter typically takes about 60 days, and by then match participation will be difficult, if not impossible.

### Reapplying

A "Propose Withhold" response from the RRC may be addressed quickly if the problems cited can be resolved with additional documentation. This may represent a delay of only four to eight months. However, if there are substantial areas of non-compliance that cannot be fixed in a timely fashion, or if the application was "Denied", there may be a need to reconsider the proposal.

### Maintaining Accreditation

Maintenance of accreditation changed significantly with the recent implementation of the "Next Accreditation System," which is now fully operational. In this system, programs complete a Program Self-Study every 10 years and subsequently undergo a scheduled site visit. The site visit is scheduled 18 to 24 months after the program has completed its Self-Study. In addition, program data is submitted to the ACGME electronically on an annual basis. Programs are evaluated annually by the Review Committee. This means that programs are evaluated longitudinally, rather than periodically, with a focus on evaluating performance against goals. The system is also designed to help programs establish goals for the future. Further information can be found on the ACGME website at <https://acgme.org/What-We-Do/Accreditation/Site-Visit/Eight-Steps-to-Prepare-for-the-10-Year-Accreditation-Site-Visit>.

<b>Current Accreditation System</b>	<b>Next Accreditation System</b>
Site visits every five years (or less)	Scheduled site visits every 10 years
Programs evaluated by Review Committee in conjunction with site visits	Program data evaluated annually by the Review Committee
Large printed Program Information Form (PIF)	No PIF; data transmitted electronically to ACGME annually
Periodic evaluation	Longitudinal evaluation
Process-oriented (provide appropriate documentation)	Performance-oriented (evaluate performance against goals)
Future goals not addressed	Help programs establish goals for the future

## MECHANISMS TO OBTAIN FUNDING

With the aging population and the expansion of minimally invasive vascular services there will be a need over the next two decades for increasing numbers of vascular surgeons. It is important that we as a specialty supply that need by expanding existing training programs or by creating new positions in vascular practices currently without fellowships. One of the major challenges will be funding these new positions and/or programs.

The Society for Vascular Surgery and the Association of Program Directors in Vascular Surgery have jointly developed several strategies to consider when seeking funding for:

- A new vascular surgical fellowship or residency
- Conversion of an existing vascular fellowship to a 0+5 residency

### **Background**

Securing funding for new 0+5 or 5+2 training pathways is challenging, as they fall under the existing FTE residency caps, which were established by the Balanced Budget Act (BBA) of 1997. The BBA froze reimbursable numbers of residency slots as of 1996, except for rural hospitals.

The only way that hospitals can increase residency numbers is by finding alternative funding or by eliminating other ACGME hospital positions. As vascular training program directors work with their hospital administrators and department chairs to identify sources of funding for new programs or conversion of 5+2 programs to 0+5, they might consider one or more of the following strategies.

### **What is the math?**

- To establish a traditional 5+2 vascular fellowship, your hospital would need to provide two positions per year.
- To establish a 0+5 residency in vascular surgery, your hospital will need to provide an additional five positions per year (albeit one position will be necessary the first year that the residency begins, two in the second year....and five positions by year five).
- To convert a 5+2 fellowship to a 0+5 residency will require your hospital to eventually provide an additional three positions per year.

### **Strategies**

1. The funding that hospitals receive to support fellows during post graduate years 6 and 7 in 5+2 programs is 50% of the amount received by hospitals to support a resident during years 4 and 5 of a 0+5 program. CMS pays for "fellowship" positions or positions beyond the traditional 5 year surgical training at 1/2 the usual level. Thus, if you convert a 5+2 program to a 0+5 program, the hospital will receive twice as much funding when the two "fellowship" years are converted to two "residency" positions.
  2. Many general surgical programs have preliminary or undesignated positions. Individuals that match into these positions will participate in a general surgical residency for two years and then accept a position in a surgical subspecialty, or in another specialty, or in a general surgical residency at another institution. The quality of candidates that accept these positions is variable. You may be able to negotiate the conversion of funding of one
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of these positions to support vascular training positions, either a 5+2 or 0+5. For example: one of these 2 year preliminary positions could be converted into the first two years of a 0+5 vascular residency program which will now be consistently filled with very strong first and second year residents, improving the quality of the general surgical residency. This will be appealing to your department chair and general surgery program director. If you acquire one of these preliminary, two year, positions for your 0+5 vascular residency, you will need the hospital to fund only an additional three positions, not five. Similar arguments can be made in case of starting a fellowship.

3. Each year, in every hospital in the country, many ACGME-approved positions go unfilled. Some of these positions are repetitively unfilled. A logical argument could be made to eliminate repetitively unfilled positions at your hospital and using these resources to contribute funding for a new vascular surgery fellowship or residency. Data from 2010 show that most all specialties filled less than 100 percent of their designated positions. The GME office can provide you this data for your own institution.
  4. Many hospitals are now employing physician extenders for surgical services since the 80- hour work week has diminished the amount of time that surgical residents can provide patient care. *Physician extenders are frequently used for busy vascular services.* Transfer of the resources now used to pay physician extenders to the funding of a vascular training program is a much more cost-effective way for hospitals to gain additional man or woman power for patient care. From the hospital's perspective, it is more cost-effective to fund an additional residency position than to employ physician extenders. Even with the 80-hour work week, residents cost less per hour than do physician extenders.
  5. It will be helpful to discuss your plans with your hospital administrator. When doing so, you might use the following talking points:
    - Vascular surgery, if performed efficiently remains an extremely profitable business for hospitals. As the marginal profit related to cardiac catheterization procedures diminishes, many hospitals are looking to expand their vascular programs in order to increase revenue.
    - Creation or expansion of a vascular fellowship or residency raises the prestige of the institution. The institution now becomes a training site for new vascular specialists.
    - Creation of a training program increases the ability of an institution to care for more complex patients and a higher volume of patients.
    - Creating or expanding vascular training programs is a first step in creating a tertiary vascular referral service that will directly contribute to hospital profitability.
  6. A 0+5 Vascular Surgery Residency could be created through the conversion of an existing general surgery categorical 5-year position. This may be an appealing alternative for general surgical residencies with a large number of categorical positions and a marginal number of complex general surgical procedures (e.g. esophageal/ pancreatic/ endocrine/ thoracic interventions). That said, it would be unusual for a general surgical program to "give up" one of its categorical positions for a vascular residency.
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## FREQUENTLY ASKED QUESTIONS

### **What is ACGME?**

Accreditation Council for Graduate Medical Education

<http://www.acgme.org>

### **Who can I contact at the ACGME with questions regarding Vascular Surgery training programs and program directors?**

- Executive Director: Donna L. Lamb, DHSc, MBA, BSN (312) 755-5499, [dlamb@acgme.org](mailto:dlamb@acgme.org)
- Associate Executive Director: Cathy Ruiz, MA, (312) 755-5495, [cruiz@acgme.org](mailto:cruiz@acgme.org)
- Accreditation Assistant, RC: Kelsey Sill, (312) 755-5784, [ksill@acgme.org](mailto:ksill@acgme.org)
- Data Systems Technical Support, (312) 755-7474, [ads@acgme.org](mailto:ads@acgme.org)

### **Does ACGME have FAQs on new program applications and/or commonly asked questions regarding accreditation of vascular surgery programs?**

Yes, you can find them online at: [www.acgme.org](http://www.acgme.org)

Common Program Requirements:

[https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRs\\_2017-07-01.pdf](https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRs_2017-07-01.pdf)

Common Program Requirements FAQ:

<https://www.acgme.org/Portals/0/PDFs/FAQ/CommonProgramRequirementsFAQs.pdf>

Vascular Surgery Program Requirements:

<https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450VascularSurgery2018.pdf?ver=2018-06-19-094541-077>

ACGME Glossary of Terms:

[https://www.acgme.org/Portals/0/PDFs/ab\\_ACGMEglossary.pdf?ver=2018-05-14-095126-363](https://www.acgme.org/Portals/0/PDFs/ab_ACGMEglossary.pdf?ver=2018-05-14-095126-363)

New Program Application Instructions:

<http://www.acgme.org/acgmeweb/Portals/0/ApplicationInstructions.pdf>

New Program FAQ:

[http://www.acgme.org/acgmeweb/Portals/0/fs\\_faq.pdf](http://www.acgme.org/acgmeweb/Portals/0/fs_faq.pdf)

### **Who can be a program director?**

Qualifications of the program director must include:

- 1) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee
  - 2) current certification in the subspecialty by the American
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Board of Surgery, or subspecialty qualifications that are acceptable to the Review Committee

3) current medical licensure and appropriate medical staff appointment.

4) Must be >5 years out of vascular training or have served as Associate PD for 3-year term

### **Who can be an associate/assistant program director (APD)?**

The ACGME officially does not recognize the position of an APD. As such, there are no specific requirement in terms of qualification. However, an APD is typically a more junior faculty with an interest in trainee education with an intent on becoming a PD in the future.

### **Our institution currently has a Vascular Surgery Fellowship. Can I appoint a separate program director for the Integrated Vascular Residency?**

A single program director must be appointed for all vascular surgery training programs. One program director must oversee any and all vascular surgery fellowships, integrated residencies and 4+2 programs.

### **I've just been named program director. Do I need to notify any agencies or accrediting bodies?**

The sponsoring institution's GMEC (Graduate Medical Education Committee) must approve a new program director or any change in the position. Once approved, the program director must submit this change to the ACGME via ADS (Accreditation Data System).

### **Can the program director be a DO?**

The RRC does not require that the vascular surgery program director be an MD. A DO with specialty qualifications in Vascular Surgery will need to be reviewed by the RRC.

### **I would like to share the program director experience with other faculty in my group. Can we alternate yearly?**

No. The term of the program director as a general rule must be the duration of the program plus one year as continuity is essential. For fellowship the minimum appointment term is 3 years but 5 are preferable. For an Integrated 0+5 program, the term of appointment should be six years or longer. Appointing an associate director however is permissible and can be used to help improve the educational experience and share the workload.

### **Where can I find the program requirements for the Integrated 0+5 Vascular Program?**

Requirements for the Vascular Surgery Fellowship, Integrated Program, Program Director and components of the program can be found on the ACGME website under the RRC – Surgery heading: in the Vascular Surgery Program Requirements, Section II A.

<https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/450VascularSurgery2018.pdf?ver=2018-06-19-094541-077>

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## **What is ERAS?**

ERAS (Electronic Residency Application Service) is a service that transmits applications, letters of recommendation, transcripts, USMLE scores. Students and residents interested in applying to a program need to submit their application through ERAS. Applicants are assigned an AAMC ID# which is then used for ranking interest in matching to various programs.

## **We just got approved! Now, how do we get listed on ERAS or participate in the match?**

Students and residents apply for residency and fellowship training match through the NRMP (National Resident Matching Program) after submitting their materials through the system. Contact NRMP to learn how to participate in the match.

- NRMP Support Line: 866-653-6767, [support@nrmp.org](mailto:support@nrmp.org)
- NRMP Policy Line: 202-400-2235, [policy@nrmp.org](mailto:policy@nrmp.org)

For integrated programs accredited during the Fall (November) RRC meeting, if they wish to participate in the same year's student match in March, the PD will need to contact the RRC by phone in order to have communication sent to the appropriate organizations to permit participation in the match. Similarly, for 5+2 programs accredited during the February RRC meeting, a call would be necessary, as the formal approval letter typically takes about 60 days, and by then match participation will be difficult, if not impossible.

## **Can I copy someone's curriculum or do I need to make my own?**

Many components from vascular surgery curriculums at various institutions are similar and able to serve as a foundation from which to build. Each program however will find local variability that requires tailoring of the curriculum to match the sponsoring institutions goals and program requirements.

## **Core curriculum for 0+5 – what do people recommend?**

Local institution strengths will vary from program to program, thus what may work in one institution may not work at another. There must be a core surgical education experience of 24 months combined with 36 months of documented educational experiences concentrated in vascular surgery. The core rotations can be distributed over the first 2-4 years, with the majority of programs opting to dispersing the 24 months of core training over the first three years while mixing in the required 36 months of Vascular Surgery as early as the first year. Local strength at a senior resident level on a general surgery service in the fourth year may warrant placing the Integrated 0+5 resident on the rotation if the education experience is exceptional.

## **How do I prepare for a site visit?**

For most site visits, the site visitors will use only the information collected via the ADS, and the program staff will not need to complete documentation prepared specifically for the site visit. A small number of site visits require documentation prepared specifically for the visit. These include: 1) application for accreditation; 2) the full site visit at the end of the two-year period of "initial accreditation", which requires completion of an updated version of the specialty-specific portion of the application document; and the 10-year site visit, which requires completion and uploading of the self-study summary 12-18 months before the site visit.

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The APDVS has a slide deck for the new program directors workshop on this topic:

[https://vascular.org/sites/default/files/Preparation\\_Site\\_Visit\\_051010.pdf](https://vascular.org/sites/default/files/Preparation_Site_Visit_051010.pdf)

A FAQ also can be found online at: [www.acgme.org/What-We-Do/Accreditation/Site-Visit/Site-Visit.FAQs](http://www.acgme.org/What-We-Do/Accreditation/Site-Visit/Site-Visit.FAQs)

**When a surgery is performed and more than one procedure is performed in that surgery, can all of the performed procedures be listed in the institutional operative experience (i.e. if both an open aortic reconstruction and a distal bypass or stenting were performed on a patient during the same surgery)?**

Yes, they can be counted for institutional volumes for applications. Although, please note the policy is different for residents recording their operative experience.

**How can I compare our current volume of vascular cases to the national averages at other programs?**

ACGME provides Vascular Surgery Case Logs (National Data Reports) you can review at:

<http://www.acgme.org/acgmeweb/tabid/274/DataCollectionSystems/ResidentCaseLogSystem/CaseLogsStatisticalReports.aspx>

**How do I join APDVS?**

Membership is automatically granted to all accredited vascular surgery training programs.

Membership provides complimentary registration to the APDVS Spring Meeting and access to the APDVS membership directory, online resources, and other email communications. Dues are \$700 annually for programs. To become a member, please contact the APDVS office at [apdvs@vascularsociety.org](mailto:apdvs@vascularsociety.org).

**Should my program coordinator attend the APDVS Spring Meeting?**

Many program directors have found it very valuable to have their program coordinators attend the APDVS Spring Meeting as it features combined educational programming for program directors and coordinators. Additionally, the Association of Vascular Surgery Coordinators (AVSC) hosts educational sessions for program coordinators in conjunction with the Spring Meeting. The AVSC educational sessions have proven to be a great resource for new program coordinators.

**How do program coordinators join AVSC?**

AVSC membership and Spring Meeting registration is complimentary for vascular program coordinators. Additional AVSC information and resources can be found online at:

<https://vascular.org/apdvs/coordinators>

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## **SAMPLE PIFS AND POLICIES**

*Requests for documents to be emailed should be directed to [apdvs@vascularsociety.org](mailto:apdvs@vascularsociety.org).*

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## RESOURCES/CONTACTS

Please note: The following program directors and program coordinators have generously volunteered to serve as advisors and mentors.

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