



10 Key Steps to Preparing a Successful Vascular Surgery Fellowship Application

*Prepared by the
SVS Resident and Student Outreach Committee*

Disclaimer

This Toolkit is a collaborative work from Society for Vascular Surgery's Student and Resident Outreach Committee. It is intended to help general surgery residents interested in applying to a vascular surgery fellowship program. The Toolkit is a reference source only and is not intended to be a substitute for information and/or assistance from the National Resident Matching Program or the Electronic Residency Application Service.

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1	<ul style="list-style-type: none">• Confirm Your Interest in Vascular Surgery<ul style="list-style-type: none">• Page 3
2	<ul style="list-style-type: none">• Be Aware of the Process and Timeline<ul style="list-style-type: none">• Page 5
3	<ul style="list-style-type: none">• Build Your CV<ul style="list-style-type: none">• Page 6
4	<ul style="list-style-type: none">• Find the Right Fit – Academic vs. Clinical-based Fellowship Programs<ul style="list-style-type: none">• Page 7
5	<ul style="list-style-type: none">• Find the Right Fit – Fellowship Programs with/without 0+5 Programs<ul style="list-style-type: none">• Page 9
6	<ul style="list-style-type: none">• Narrow Your Choices<ul style="list-style-type: none">• Page 10
7	<ul style="list-style-type: none">• Create a Successful Application<ul style="list-style-type: none">• Page 11
8	<ul style="list-style-type: none">• Prepare for Your Interviews<ul style="list-style-type: none">• Page 12
9	<ul style="list-style-type: none">• Follow-up After the Interviews<ul style="list-style-type: none">• Page 16
10	<ul style="list-style-type: none">• Stay Involved and Remain Engaged During Your Chief Year<ul style="list-style-type: none">• Page 17

Confirm Your Interest in Vascular Surgery

Why Vascular Surgery?

- Vascular surgeons are the only medical specialists trained to provide comprehensive care of patients with all stages of vascular disease: prevention, diagnosis, and all aspects of management.
- Vascular disease includes arterial, venous, and lymphatic problems.
- Vascular therapy includes risk factor modification, comprehensive medical therapy, and conservative approaches.
- Vascular operations include the full spectrum of open and endovascular procedures.
- Vascular surgeons run non-invasive vascular laboratories, do research in clinical as well as basic science, risk factor modification, medical treatments, minimally invasive procedures, and open surgeries when necessary.

Supply and Demand

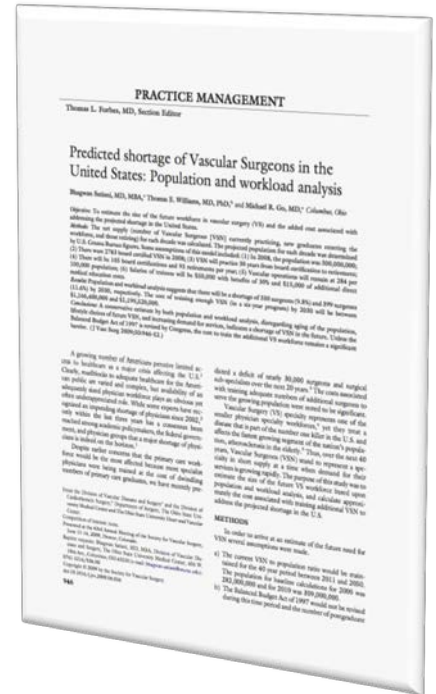
Now more than ever, the choice to become a vascular surgeon fulfills an acutely growing need created by the aging population in the United States and beyond. According to the U.S. Census Bureau, from 2000 to 2030, there will be a near doubling of individuals aged 65 years and older, from approximately 35 million to an estimated 71 million. The number of people age 80 years and more will more than double in the same time period – from 9.3 to 19.5 million.ⁱ

In addition, in 2010, there were only 2,853 active vascular surgeons in the United States participating in patient care. This is calculated to be 108,325 people per active vascular surgeon, the largest ratio of all medical subspecialties in the country. The shortage of vascular surgeons is exacerbated by the realization that 39.8% of practicing vascular surgeons are over the age of 55.ⁱⁱ

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 to ensure the delivery of high quality care to patients is to provide a sufficient number of well-trained vascular surgeons in the future. Talented, dedicated, skilled vascular surgeons will be needed to meet this urgent need.

The Right Fit

Before choosing vascular surgery as your career of choice, following are a few ways to ensure that the specialty is the right fit for you.



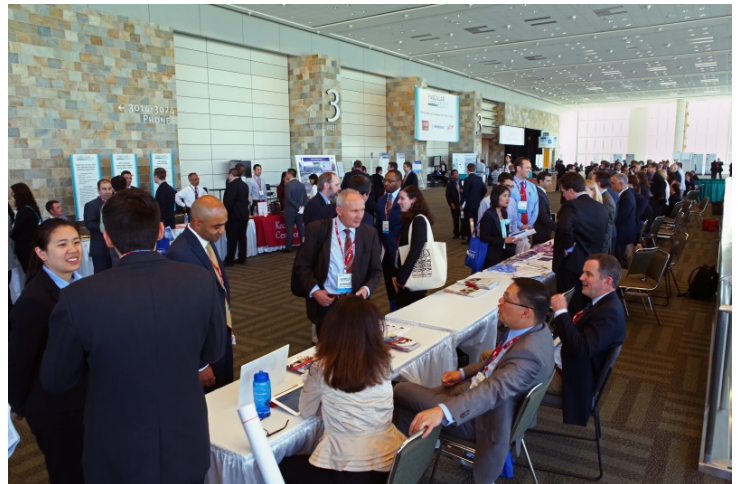
Hands-on Experience

- Attend the SVS' Vascular Annual Meeting's Open and Endovascular Simulation Training Workshop as part of the Scholarship Program for surgical residents
- Participate in vascular surgery electives at your program
- Seek out service vascular related cases or follow patients with vascular complications when on general surgery or other rotations (i.e., combined cases, patients requiring vascular interventions or surgery during their course of general surgery admission, etc.)



Networking Opportunities

- Find vascular surgery mentors
 - Mentors
 - Division chief
 - Vascular program directors
 - Research advisors
 - Current fellows
- Apply for a travel scholarship for the Vascular Annual Meeting
- Attend the residency fair at Vascular Annual Meeting
- Participate fully in the welcome buddy/mentor program or the shadow program at the Vascular Annual Meeting
- Attend local or regional vascular surgery meetings
- Apply for SVS Candidate Membership and volunteer for Committees

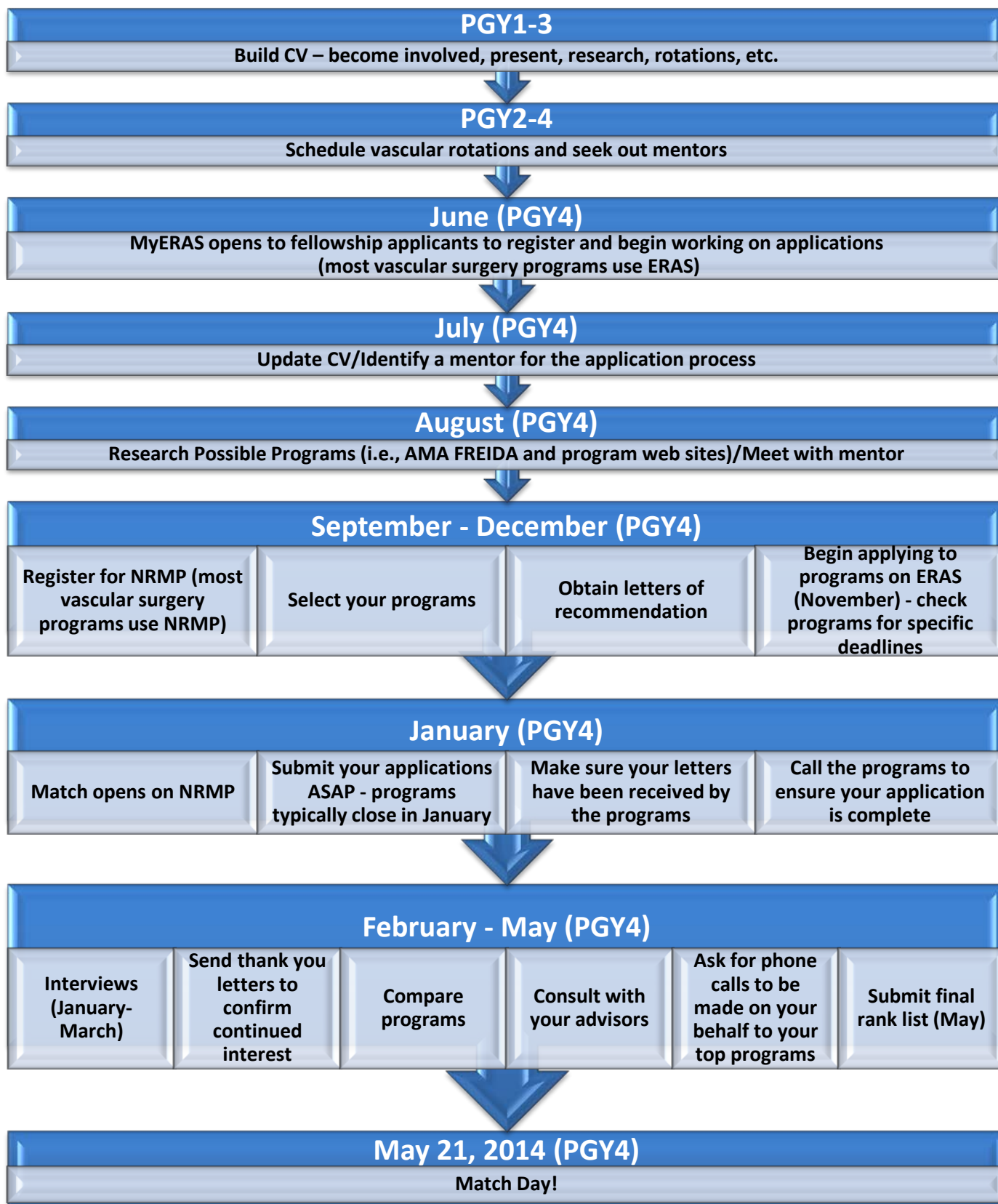


Literature and Curriculum Resources

- Review the vascular surgery training curriculum online at the Association of the Program Directors in Vascular Surgery's web site (<http://www.vascularweb.org/APDVS/Pages/Curricula.aspx>)
- Seek out articles from the *Journal of Vascular Surgery* or the *Journal of Vascular Surgery: Venous and Lymphatic Disorders* at your institution's library
- Read articles from the SVS' official newspaper, *Vascular Specialist* (<http://www.vascularspecialistonline.com/>)
- Explore other scientific journals on vascular disease



Be Aware of the Process and Timeline



Build Your CV

- Define yourself clinically
- Differentiate yourself in a positive manner
- Do not embellish
- Be confident, but humble and not arrogant
- Seek mentorship
 - Faculty
 - Fellows
 - Senior Residents
- Do research
 - Present at meetings
 - Broaden knowledge
 - Make connections
- Find presentation opportunities
 - Include abstracts and posters in your CV even if they are local presentations
 - Consider your State ACS Chapter or local surgical societies for presentations
 - Submit an abstract for the poster session at the Vascular Annual Meeting
 - Present a case report at a regional and/or national society to get high visibility even if you don't have a formal research project that is ready to report
- Network at meetings

Video Resources

Creating and Building a Great CV (http://www.youtube.com/watch?feature=player_detailpage&v=IkCw7i5ep-8)



Find the Right Fit – Academic vs. Clinical-based Fellowship Programs

The primary objective of any type of vascular surgery training program is to train competent vascular surgeons. Fellowships are designed to be the launching point of your vascular surgery career. You should choose wisely by considering both your personal and professional goals.

Some key deciding factors include:

- Board pass rates
- Career path (i.e., after fellowship will you be seeking academic or private practice?)
- Focus of training (i.e., does the program have an academic or clinical focus/track record?)
- Geography considerations
- Priority of research
- Scope of practice
- Significant other/spouse considerations



AMA FREIDA

AMA's FREIDA Online is a database with over 9,400 graduate medical education programs accredited by the Accreditation Council for Graduate Medical Education, as well as over 100 combined specialty programs. It provides an easy way to quickly compare programs.

<http://www.ama-assn.org/ama/pub/education-careers/graduate-medical-education/freida-online.page>

Academic vs. Clinical Fellowships

While all programs have academic and clinical components, some fellowships are better known for producing "academic" or "private practice" vascular surgeons and/or have a reputation as an academic or clinical fellowship. When researching programs you should look at the job history of previous trainees. This will give you better insight into the focus of the program. Additional knowledge can be gained by comparing the following:

- Basic research
- Case volumes
- Clinical research
- Faculty
- Hospital setting

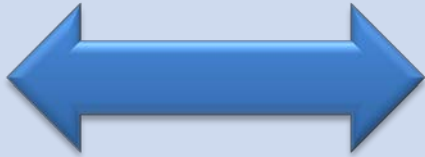
Case Volume and Faculty

Generally, case volumes will be higher in clinical fellowships allowing for broad training, but complex cases are more commonly found in academic fellowships. The faculty and hospital setting also will differ at these types of programs. At an academic program you will find a mix of faculty and various hospital settings such as the VA and university center. Clinical fellowships typically are held at a single hospital and feature a faculty comprised only of clinicians.

Research

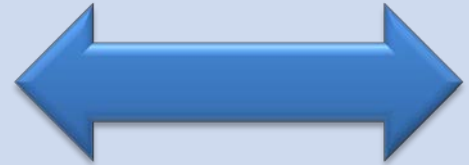
If you are interested in pursuing a career in basic science, an academic fellowship with more access to NIH funding, grants, and scientists is more appropriate. Although clinical research can be done at both types of fellowships, typically more grants and trials will be found at an academic program.

Below are a few other key characteristics that may help you decide what type of fellowship is most appropriate.



Academic

- Interested in pursuing a career in academic surgery
- Want greater access to resources (i.e., simulation center, animal labs) and networking (i.e., funding for courses)
- Less interested in “business” aspects of medicine
- Enjoy academic endeavors such as research, writing articles/chapters, presenting at meetings
- Interested in an opportunity to improve CV
- Want to do a lot of complex cases on a regular basis in your training (i.e., fenestrated stent grafts, TAAA, pediatric vascular)
- Interested in taking care of “challenging” cases of patients with severe vascular disease
- Interested in larger faculty for more points of learning
- Want to teach



Clinical

- Want to be prepared for the “business” of medicine
- Less interested in academic pursuits such as teaching or research
- Less interested in competing with other learners (i.e., surgical residents, 0+5 residents, PAs, nurses, students, other specialists, etc.)
- Interested in a front-line practice
- Interested in “bread and butter” cases
- Interested in smaller faculty for more personal learning similar to an apprenticeship
- Interested in a focus on practice efficiency (less scut, fewer distractions, etc.)
- Want more medical “amenities” (surgeon’s lounge, doctor’s cafeteria)

Does My Choice of Fellowship Program Limit My Practice Choices?

No matter what type of fellowship-based training you choose, you are never limited to a specific type of practice for the rest of your career. Trainees from academic-based fellowships have gone into private practice and trainees from clinical-based fellowships have worked at academic practices. It is typically much easier to transition from academic practice to private practice than the reverse as many clinical-based fellowships might not emphasize some key academic requirements such as research.

And, if you do choose an academic fellowship, but want to practice in private practice, some key ways to prepare yourself for private practice are by learning more about billing and coding, establishing a referral base, covering call, understanding contracts, as well as doing off-site rotations.

If you are still unsure of what type of practice you want to pursue, an academic fellowship is probably a better choice for you in order to keep all of your options open.

Find the Right Fit – Fellowship Programs with/without 0+5 Programs

As of February 2014, there were currently 48 0+5 (vascular surgery integrated) programs and only four of these programs did not have parallel vascular surgery training fellowship programs. With nearly 50% of current fellowship programs having a parallel 0+5 program, fellowship applicants should evaluate the pros and cons of attending a program with multiple training paradigms to determine if they are more suited to a fellowship program with/without a parallel 0+5 program.

In the future this may not be as much of a deciding factor as it is expected that over the next five years additional 0+5 programs will be developed, and many of these will be at institutions with existing fellowships.

Fellowships with Parallel 0+5 Programs

Pros	Cons
<ul style="list-style-type: none"> • Mentoring opportunities, research projects, and cases with 0+5 residents • Augment education • Program feels larger • Emphasis on education • Call schedule and senior/chief responsibilities are reduced as PGY4/5 share duties 	<ul style="list-style-type: none"> • Distributing cases • Faculty assumptions • Depending on how established the 0+5 program is, there may be learning curve associated with operating both programs simultaneously

Fellowships without Parallel 0+5 Programs

Pros	Cons
<ul style="list-style-type: none"> • Less competition for cases • Easier to estimate clinical experience • Training program algorithm more well established 	<ul style="list-style-type: none"> • Level of interest of junior residents more variable • Less opportunity for assuming a teaching role • Less protected research time

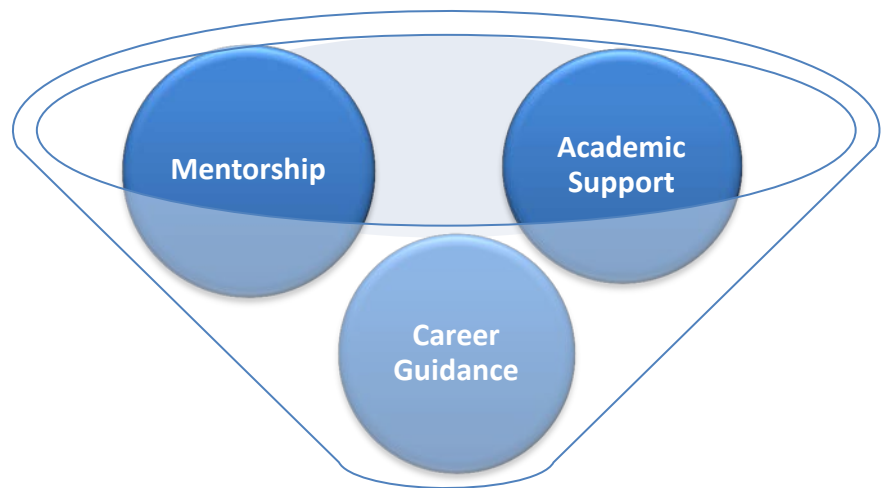
Narrow Your Choices

Use Your Network

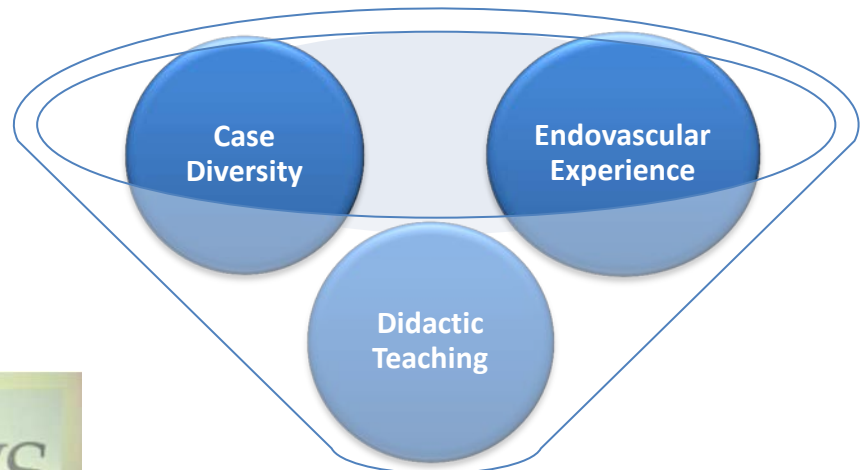
- Mentors
- Division chief
- Vascular surgery program directors
- Research advisors
- Current fellows

Keep in Mind

- Determine your competitiveness
- Be realistic
- Factor in that programs will filter applicants based on
 - ABSITE scores
 - Training institution
 - Letters of recommendation
 - Publications
- Apply broadly
 - Apply to at least 20 programs
 - Include 5 “safe” schools



Education



Clinical Experience

Video Resources



Choosing a Fellowship: What Should I Look For?

http://www.youtube.com/watch?feature=player_detailpage&v=gzfGLkz-YBM

Create a Successful Application

Helpful Tips

- Review your CV a year prior to application
- Schedule vascular electives early in PGY4 (if possible, try to schedule them in PGY2/3 to help you find mentors even earlier)
- Identify a mentor/faculty member that you can rely on for honest feedback of your CV/statement
- Arrange a lighter schedule during interview season

What to Avoid

- Casual photo for application
- Spelling errors
- Bland and generic letter of recommendations
 - Wrong name/inconsistent name in letter
 - Letter is not personalized
- Not knowing your goals
- Not being able to support everything in your CV/application

Letters of Recommendation

- Minimum of 3
- Ask early for recommendation letters
- Division chief is a must
- Non-vascular: research mentor, program director, chair, other clinical faculty
- Procure letters from faculty that know you well and think highly of your abilities
- Meet with faculty to get a personalized letter
 - Discuss career goals
 - Give them your CV (this should not be a draft version)
 - Share your personal statement
 - Describe your research in a paragraph
 - Share with them any other information you would like to be in the letter
- Seek high profile faculty letters of recommendation, if applicable (i.e., president of a vascular society, well-known expert, etc.)
 - If you have someone at your institution that is considered a high profile faculty member, you are encouraged to get a letter from them, but be sure to ask early for the letter and make sure they know you well enough to write a personalized letter

Personal Statement

- Should be different than the personal statement used for your general surgery residency application
- Should give insight into your professional life and career goals
- Doesn't need to include a clinical story or "amazing case"
- Should be well-written and personalized
- Must be proofread
- Should be reviewed by a trusted colleague/mentor

Prepare for Your Interviews

There are two main objectives for interviews:

1

Determine if the PROGRAM is right for you

2

Determine if YOU are right for the program

In most cases the focus of the interview is really on personality and “fitting in.” By the time you have been chosen for an interview, the program has already pre-selected you based on your application, letters of recommendation, etc. The interview provides an additional way for the program to determine if you are a good fit in their culture.

In addition to determining if you are a good personality match for the program, faculty also will be looking for the following key items:

- An accurate application
- Genuine enthusiasm about vascular surgery

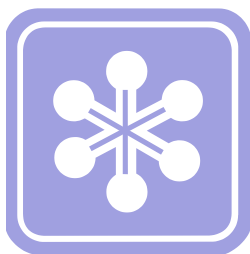
Helpful Tips

- Be prepared
 - Research program
 - Research faculty and their clinical/research interests
 - Know the program’s clinical/research mission
 - Have specific questions ready
 - Know your CV/goals
 - Be able to talk about any paper/research on your CV
 - Have an interesting vascular case ready to talk about
 - Know the answers to basic interview questions
 - Consider how you would answer ethical dilemmas – they will be asked
- Be passionate about your career choice
- Be honest
- Be professional
- Treat the interview process like a job interview
- Respond to invitations promptly

Helpful Tips

- Make an effort to attend pre-interview events
 - Meet everyone at these typically optional events
- Talk with everyone
 - Be nice/polite to everyone – from support staff to faculty
- Always remember
 - Every interaction can have repercussions
 - Your fellow applicants may become friends but you are vying for the same positions
 - Current fellows are your best source to find out what your potential life will be like
 - Work with your faculty and mentors throughout the process
 - The interview goes both ways

Weather Delays/Cancellations



Interviews for fellowships typically occur during the months of February, March, and April, which also coincides with winter weather for much of the U.S. and Canada. As a result, many candidates periodically experience flight delays and cancellations as they travel for interviews. If your flight is delayed/cancelled and/or driving is not advised due to adverse weather, contact the program immediately to alert them of the situation and try to arrange for another interview date. Programs also should be contacted immediately if a personal or professional emergency arises and you are unable to attend the interview.

Create a Document to Compare Programs' Strengths/Weaknesses

A simple way to compare the strengths and weaknesses of the visited programs is to create a chart or spreadsheet you can easily just add notes to after each visit. It is best add comments when they are fresh in your mind, such as your on return trip from the interview. This document will be a critical tool as you begin the process of ranking the programs, especially if your interviews are staggered over several months rather than a few weeks. Common items for comparison include:

- Case volume and mix
- Clinical experience
- Faculty interaction with fellows
- Interaction with 0+5 residents (if applicable)
- Interaction with general surgery residents
- Formal educational curriculum
- Level of responsibility
- Research opportunities
- Surrounding community

Prepare Questions

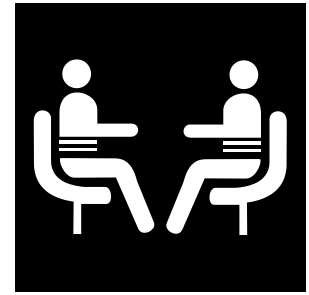
Accreditation

- When was the program's last accreditation date; what is the cycle length? (cycle length can be up to 5 years)
- Were there any citations?

Clinical Experience/Case Volume

- Ask for projected estimates from your start date

- What will be your expected level of independence?
- What types of cases are typical?
- What are the average numbers of cases for the following procedures?
 - Advanced endovascular/fenestrated endografts
 - Carotid endarterectomy
 - Carotid stenting
 - Diagnostic interventions
 - Endovascular infrarenal aortic aneurysm repair
 - Infrainguinal bypass
 - Open aortic surgery
 - Mesenteric revascularization
 - Therapeutic interventions
 - Thoracic stent grafts
- Ask if the case volume is sufficient to support both programs – find out if the fellow case volume has been affected by the institution of a 0+5 program. (if they have a 0+5 program)
- Ask to spend a day before or after the interview shadowing current fellows to get a better sense of the day-to-day environment



Changes

- Are there any anticipated changes in the program or faculty in the near future?
- Is any faculty planning to leave and/or have any faculty left recently?
- Are they planning to start a 0+5 program? (if applicable)
- Ask if there are any planned changes for the 0+5 program, and how may that affect you. (if applicable)

Educational Opportunities

- What is the didactic teaching schedule?
- How is travel to meetings/conferences determined?

Lifestyle

- How is call scheduled?
- Are work-hour restrictions followed?

Research

- What are the program's research commitment and expectations? (i.e., clinical research projects, manuscripts, book chapters, etc.)
- Can you really get research done in a two year fellowship? (i.e., research commitment, expectations, protected research time, etc.)

Anticipate Questions



- Why did you choose vascular?
- Why do you like our program?
- Be prepared to explain your research and anything else you've chosen to put in your CV
- What are your career goals? (i.e., what do you want to do after fellowship?)

Red Flags

During your visit, don't forget to be on the look-out for any troubling or problematic events, activities, or interactions. Some common red flags include:

- No time scheduled with current fellows
- Evasive answers to rumors of anticipated changes
- Lack of enthusiasm of program from faculty and fellows
- The best of the program should be on display – if it isn't, something may be amiss
- Trust your intuition – if something feels off, it probably is...



Don't Forget

- Arrange coverage while you're away
- Treat the process like a job interview
- Work with your faculty and mentors
- Know your goals
- Make a plan
- Be prepared
- Be professional
- Always remember that vascular surgery is a small world
 - Be courteous to all programs even if you aren't a good fit
 - Never forget that faculty talk to each other and genuinely want to help residents find the best suitable program
 - Keep in mind that you will interact with faculty/colleagues repeatedly in the future
 - Don't be concerned that by not choosing a program you will elicit hard feelings – programs and faculty will understand



Follow-up After the Interviews

- Send thank you letters and express your continued interest
- Analyze data from visits to compare programs
- Submit your final rank list by the deadline



Stay Involved and Remain Engaged During Your Chief Year

Congratulations! You have matched into a Vascular Surgery Fellowship Training Program! Before your fellowship begins, it is very important to stay involved and remain engaged with vascular surgery during your chief year.

Some ways to remain involved include doing as many vascular cases as possible, as well as finding opportunities in vascular surgery for:

- Research
- Literature
- Reading

Contact Your Fellowship Training Program

During your chief year, you will also want to keep in touch with your program, as well as get started early on your paperwork and credentialing. Reach out to your fellowships:

- Program director
- Fellows/residents
- Staff

Prepare for Your General Surgery Boards

Importantly, during your chief year be sure to prepare for your General Surgery Boards if you desire board certification in general surgery in addition to vascular surgery. If you are considering doing general surgery at some point during your career you will need to take the General Surgery Qualifying Examination and the General Surgery Certifying Examination. If you are not seeking board certification in general surgery, you will need to take the Surgical Principles Examination followed by the Vascular Surgery Qualifying Examination and Vascular Surgery Certifying Examination. Visit the American Board of Surgery (ABS) at www.absurgery.org for full eligibility and application requirements.

Preparation

Standard textbooks and journals are recommended. In addition, mock oral examinations and having a mentor ask you board scenario questions are a big asset. You can also practice talking and explaining scenarios in front of a mirror. Review courses have the benefit of going through clinical scenarios and critiquing the applicant on their approach.

Pass Ratesⁱⁱⁱ

- General Surgery Qualifying Examination: In 2013 there was a 79 percent pass rate for the 1,356 examinees.
- General Surgery Certifying Examination: In 2013 there was an 80 percent pass rate for the 1,396 examinees.
- Surgical Principles Examination: In 2013 there was a 74 percent pass rate for the 42 examinees.

- Vascular Surgery Qualifying Examination: In 2012 there was a 90 percent pass rate for the 123 examinees.
- Vascular Surgery Certifying Examination: In 2013 there was an 80 percent pass rate for the 132 examinees.

ACKNOWLEDGEMENTS

Please note that PowerPoint presentations from previous SVS Resident/Student Programs held at Vascular Annual Meetings were adapted for this toolkit. The Society for Vascular Surgery's Resident and Student Outreach Committee would like to acknowledge the hard work and effort of the faculty that gave these presentations.

ⁱ No authors listed. Public health and aging: trends in aging -- United States and worldwide. MMWR 2003; 52:101-6.

ⁱⁱ AAMC 2012 Physician Specialty Data Book.

ⁱⁱⁱ American Board of Surgery, www.absurgery.org