Variability in 2-year training programs in vascular surgery based on results of an Association of Program Directors in Vascular Surgery survey

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ABSTRACT

Objective: Although a great deal of attention has recently focused on 5-year integrated (0+5) training programs in vascular surgery, a paucity of data exists concerning variability of daily assignments in 2-year (5+2) vascular fellowships.

Methods: We polled Association of Program Directors in Vascular Surgery members with 2-year vascular fellowships to determine the number of days in a 5-day work week that first- and second-year fellows were assigned to open vascular operations, endovascular procedures (hospital vs nonhospital facility), arterial clinic, venous clinic, noninvasive vascular laboratory (NIVL), and research.

Results: Of the 103 program directors from 5+2 vascular training programs, 102 (99%) responded. The most common schedule for both first- and second-year fellows was performing both open and endovascular procedures in the hospital on the same day 4 days of the week and spending time in combined artery and vein clinic 1 day of the week. Program directors developed different schedules for each year of the 2-year fellowship in about half (55% [56]) of the programs. A small minority of programs devoted days to only open surgical cases (13% [13]), a separate venous clinic (17% [17]), or a separate arterial clinic (11% [11]) and performed endovascular procedures in a nonhospital facility (15% [15]). All but three programs had mandatory time in clinic both years. Approximately one-third (30% [31]) of programs designated time devoted to research, whereas the others expected fellows to find time on their own. Although passing the Registered Physician in Vascular Interpretation examination is required, there was devoted time in the NIVL in only 60% (61) of programs.

Conclusions: Training assignments in terms of time spent performing open and endovascular procedures and participating in clinic, the NIVL, and research varied widely among Accreditation Council for Graduate Medical Education-accredited 5+2 vascular fellowships and did not always fulfill Accreditation Council for Graduate Medical Education guidelines. In the current era of emphasis on endovascular-based interventions, few programs devoted days to purely open surgical procedures. Endovascular experience in a nonhospital facility (where these procedures will likely become more common in the future), outpatient venous procedures, and designated time devoted to the NIVL and research were lacking in many programs. These results provide a valid data set for the Association of Program Directors in Vascular Surgery to consider establishing guidelines for training assignments in 5+2 vascular training programs. (J Vasc Surg 2017;65:1839-44.)

Although a great deal of attention has recently focused on 5-year (60-month) integrated training pathways (0+5) in vascular surgery, a paucity of data exists concerning variability of rotations in the independent pathway where 2-year (24-month) vascular fellowships follow a completed general surgery residency from an Accreditation Council for Graduate Medical Education (ACGME)-approved general surgery training program (5+2). We wish to point out that the ACGME provides guidelines for accreditation. The Residency Review Committee-Surgery (RRC-S) evaluates programs to ensure that requirements are being met, and ultimately the American Board of Surgery-Vascular Surgery Board determines the criteria for board certification. The ACGME has established guidelines regarding various aspects of each of these types of vascular training programs. Although there are twice as many 5+2 programs as 0+5 programs, little information exists about assignment of fellows in each year of a 2-year fellowship to these various ACGME-required commitments, namely, open surgical and endovascular interventions, clinic, noninvasive vascular laboratory (NIVL), and research. We analyzed how accredited independent 2-year vascular training programs assigned their trainees to these required components of vascular training and compared the results with ACGME recommendations.

METHODS

We polled Association of Program Directors in Vascular Surgery (APDVS) members with 5+2 vascular fellowships to determine the number of days in a 5-day work week

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that first- and second-year fellows were assigned to perform purely open surgical vascular operations, purely endovascular procedures (in a hospital vs a nonhospital facility), "combined" open and endovascular interventions during the same day, clinic where patients with either arterial and venous problems were evaluated ("combined clinic"), clinic where only patients with suspected arterial disease were scheduled ("arterial clinic"), clinic where only patients with suspected venous problems were scheduled ("venous clinic"), NIVL, and research. Responses included full-day and partial-day assignments (1.0, 0.5, 0.25). We compared the results of this survey with ACGME Program Requirements for Graduate Medical Education in Vascular Surgery (focused revision effective July 1, 2016).[1]

RESULTS

Of the 103 program directors with 5+2 vascular fellowships, 102 (99%) responded. The schedules of the first- and second-year fellows differed in about half (56% [57]) of the programs, whereas the remainder assigned first- and second-year fellows to the same daily schedules. The most common schedule for both first- and second-year fellows regarding interventions was 4 days per 5-day work week performing both open and endovascular procedures in the hospital on the same day (Table I). A small minority of programs performed some endovascular procedures in a nonhospital facility (15% [15]; Table II). Only a few programs devoted days to only open surgical cases (13% [14]; Table III).

The most common schedule for both first- and second-year fellows regarding clinic was evaluating patients with either arterial or venous problems in combined clinic (90% [92/102]; Table IV), whereas a small minority of programs had an arterial clinic (11% [12]; Table V) or a separate venous clinic (17%; 16 half-day, 1 full day; Table VI). All but three programs (97% [99/102]) assigned mandatory time (minimum 0.25 day/week) to clinic in both years.

About one-third (30% [31]) of programs designated time devoted to research, whereas the others expected fellows to find time on their own during less taxing rotations (Table VII).

Although passing the Registered Physician in Vascular Interpretation (RPVI) examination is currently required for vascular fellows before taking the Certifying and Qualifying Examinations, there was assigned time in the NIVL in only 60% (61) of programs (Table VIII). Program directors who did not assign time responded that they taught fundamentals of the NIVL during conferences and clinic.

DISCUSSION

This survey of APDVS members with independent 2-year vascular training programs (5+2) demonstrated robust results in that 99% (102/103) of program directors responded and provided detailed answers about daily rotations concerning the various aspects of vascular surgery training. About half (56% [58]) of programs tailored differing experience in defining duties between first- and second-year fellows.

Table I. Days per five-day work week assigned to combined open surgical cases and endovascular cases (99 of 102 programs)

Year of fellowship	No. of days/week	No. of programs (99)
First year	4.0	24
Second year	4.0	
First year	3.0	18
Second year	3.0	
First year	2.0	16
Second year	2.0	
First year	3.0	13
Second year	4.0	
First year	3.5	9
Second year	3.5	
First year	2.0	9
Second year	4.0	
First year	1.0	4
Second year	1.0	
First year	4.0	3
Second year	5.0	
First year	4.0	3
Second year	3.0	
First year	0	(3)
Second year	0	

Open and endovascular experience. The ACGME requires that vascular trainees gain competence in open cases, including abdominal, cerebrovascular, peripheral, and complex cases, as well as competence in endovascular cases, including diagnostic, therapeutic, and aneurysm cases [Training Requirements (IV.A.5.a)(2).(a)]. Trainees must perform 250 major vascular reconstructive procedures (IV.A.6.d). However, the ACGME does not make recommendations regarding the number of days per week that should be devoted to interventions to achieve competence. The Society for Vascular Surgery has also published guidelines concerning hospital privileges for newly graduated vascular fellows regarding vascular and endovascular experience, but again, there are no designated rotation assignments.[2]

Our survey found that every program that responded had at least one full day per week when both open and endovascular procedures were performed on the same day. An example of the increasing importance of endovascular interventions for vascular surgeons was the finding that only 13% (13) of programs had one full day devoted to purely open surgical cases, whereas 58% (58) had one full day devoted to purely endovascular experience (42% [43] in the hospital and 15% [15] in a