0/5 versus 5/2
Vascular Training Paradigms

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Veterans Affairs Medical Center (VAMC)
Assistant Professor of Surgery
Georgetown University Hospital (GUH)
Washington DC
Definition

- Vascular surgery is the surgical specialty involving disease of the arterial, venous, and lymphatic circulatory systems, exclusive of those circulatory vessels intrinsic to the heart and intracranial vessels.

- Knowledge base in
  - Diagnosis of vascular disease
  - Comprehensive medical management of vascular disease
  - Dissection and control of blood vessels
  - Reconstructive vascular surgical and endovascular techniques

- Also
  - Teach this information to others
  - Provide leadership within their organizations
  - Conduct or participate in research in vascular disorders
  - Demonstrate self-assessment of their outcomes
Integrated Pathway

Training Requirements

- Prerequisites
  - Completion of an MD or DO

- Length of training
  - 5 years

- Cases
  - 500 total operations
  - 200 major vascular reconstructive

- Board certification
  - Vascular Surgery
Integrated Pathway

Training Requirements

- Training overview
  - 2 years of core surgical education
    - Pre- and Post-operative evaluation and care
    - Critical care and trauma management
    - Basic technical experience in skin and soft tissue, abdomen and alimentary track, airway management, laparoscopic surgery, and thoracic surgery
  - 3 years of concentrated vascular surgery
  - Final year chief resident responsibility on vascular surgery service at an integrated institution
Independent Pathway

Training Requirements

- **Prerequisites**
  - Completion of a minimum of 3 years of general surgery education with progressive responsibility

- **Length of training**
  - 5-7 years

- **Cases**
  - 200 major vascular reconstructive

- **Board certification**
  - General Surgery
  - Vascular Surgery
Independent Pathway

Training Requirements

- 5 + 2 Pathway
  - 2 years of concentrated vascular surgery
  - Completion of a general surgery residency
  - Vascular surgery training does not have to be at same institution as general surgery

- 4 + 2 Pathway
  - 2 years of concentrated vascular surgery
  - Completion of 4 years of general surgery residency
  - 1 year of credit for vascular surgery is given during general surgery training
  - Vascular surgery training must be at same institution as general surgery

- 3 + 3 Pathway
  - 3 years of concentrated vascular surgery
  - Completion of 3 years of general surgery residency
  - Vascular surgery training must be at same institution as general surgery
Curriculum

Didactic

- Fundamental sciences
  - Anatomy
  - Biology
  - Embryology
  - Microbiology
  - Physiology
  - Pathology
  - Pathophysiology
- Care of patients with vascular disease
- Clinical/Basic Science research
  - Critical thinking
  - Design of experiments
  - Evaluation of data
- Technological advances
Curriculum
Clinical

- Pre- and Post-operative management
  - Determination of diagnosis
  - Provision of pre-operative care
  - Selection and accomplishment of appropriate operative procedure
  - Direction of post-operative care
  - Accomplishment of sufficient follow-up to understand the course of the disease and the outcome of the treatment

- Vascular imaging modalities
  - Non-invasive vascular laboratory
  - CT, MRI Scanning
  - Angiography

- Operative experience
  - Sufficient number and distribution of cases that reflect adequate representation of the current trends in order to achieve adequate operative skill and surgical judgment
Integrated versus Independent Pathway

*What do I choose?*

- No matter what, I will be a vascular surgeon!
- Do I want to also be a general surgeon?
- What are my research goals?
- Am I concerned about years of training?
- Am I competitive for a spot?
- What will other surgeons think of me?
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## Integrated Pathway Match Data

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tbody>
<tr>
<td># Positions Offered</td>
<td>19</td>
<td>22</td>
<td>30</td>
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<tr>
<td># US Allopathic Seniors</td>
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<td># Total Applicants</td>
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<td>Positions Per US Allopathic Seniors</td>
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<td># Unfilled Positions</td>
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<td>1</td>
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## Independent Pathway

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<table>
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<tr>
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<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tbody>
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<td># Positions Offered</td>
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<td>120</td>
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<tr>
<td># US Graduates Applying</td>
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<tr>
<td># Total Applicants</td>
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<td>Positions Per US Graduate</td>
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<td>75 (62)</td>
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<td># Positions Filled by Total Applicant</td>
<td>102 (84.3)</td>
<td>103 (91.2)</td>
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<tr>
<td>Number of Unfilled Positions</td>
<td>19</td>
<td>10</td>
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Who is Applying to Vascular Surgery? A Comparison of Demographics of 0+5 versus 5+2 Applicants

Zayed MA; Dalman RL; Lee JT

Department of Surgery
Stanford University Medical Center
## Results

<table>
<thead>
<tr>
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<th>0+5 Program (127)</th>
<th>5+2 Program (122)</th>
<th>P Value</th>
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<tbody>
<tr>
<td>% Women</td>
<td>36.2%</td>
<td>25.4%</td>
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<tr>
<td>Age</td>
<td>28.8</td>
<td>26.9</td>
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<td>Additional degrees</td>
<td>29.9%</td>
<td>18.0%</td>
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<tr>
<td>AOA</td>
<td>26.8%</td>
<td>20.5%</td>
<td>NS</td>
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<tr>
<td>Surgery Honors</td>
<td>48.0%</td>
<td>40.2%</td>
<td>NS</td>
</tr>
<tr>
<td>% Top quartile</td>
<td>40.3%</td>
<td>27.9%</td>
<td>.06</td>
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<tr>
<td># Publications</td>
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<td>1.3</td>
<td>&lt; .001</td>
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<td>Mean Step 1/2/3</td>
<td>226</td>
<td>219</td>
<td>.004</td>
</tr>
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A Survey of SVS Members and Surgery Department Chairs on the Integrated 0+5 Vascular Surgery (VS) Training Program

Leake A, MD; Kiguchi M, MD; Switzer G, PhD; Mitchell E, MD; Makaroun M, MD; Chaer RA, MD

Division of Vascular Surgery
University of Pittsburgh Medical Center
Oregon Health & Science University
## Results

<table>
<thead>
<tr>
<th></th>
<th>SVS Members (%)</th>
<th>Chairpersons (%)</th>
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</thead>
<tbody>
<tr>
<td>Prepared for clinical practice</td>
<td>67</td>
<td>56</td>
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<tr>
<td>Level of maturity</td>
<td>32</td>
<td>28</td>
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<tr>
<td>More complete vascular specialist</td>
<td>28</td>
<td>20</td>
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<tr>
<td>Superior endovascular skills</td>
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<td>33</td>
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<tr>
<td>Inferior endovascular skills</td>
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<td>14</td>
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<tr>
<td>Superior open skills</td>
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<td>11</td>
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<tr>
<td>Inferior endovascular skills</td>
<td>63</td>
<td>83</td>
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<tr>
<td>Would interview</td>
<td>88</td>
<td>86</td>
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<tr>
<td>Would hire</td>
<td>83</td>
<td>72</td>
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