Stanford MEDICINE

Vascular & Endovascular Surgery

Vascular Surgery Virtual Sub-Internship 2020

Welcome to Stanford Vascular! We appreciate your interest in the Vascular Surgery Integrated Residency at Stanford University Medical Center. Unfortunately, given these unprecedented times due to the SARS-CoV2 pandemic, we will not be able to meet you in person. We also understand that many of your rotations and educational opportunities have been disrupted or rescheduled/redesigned in some way. Thus, instead of our typical 4-week away rotation, we would like to offer an intensive weeklong virtual sub-internship experience. The purpose of this virtual away rotation is the following:

1) Enhance your understanding of vascular disease and its management in general
2) Provide an opportunity for you to get a closer look at our program, opportunities and culture
3) Provide us with an opportunity to get to know you as a future leader in vascular surgery

Stanford was among the first handful of programs to establish an integrated residency in vascular surgery. We matched our first intern in June 2008 and have maintained a tradition and ability to recruit future leaders in vascular surgery since that point. We now recruit 2 residents a year and include a 2-year professional development requirement. We are proud of our culture and are confident we provide a top notch educational experience with our comprehensive curriculum, culture and opportunities for academic growth and success.

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GENERAL INFORMATION:

This course is designed for 4th year medical students interested in vascular and endovascular surgery. It will be available beginning July 2020 on a first come, first served basis.

DIRECTOR:

Venita Chandra, MD
Clinical Associate Professor of Surgery
Vascular Surgery Program Director
vchandra@stanford.edu

ADMINISTRATOR:

Kate McGurk
kmcgurk@stanford.edu
650.723.2185

FACULTY: https://vascular.stanford.edu/faculty.html

MAIN RESIDENT LIASON:

Vivian Ho, MD
vivianho@stanford.edu

FELLOWS/RESIDENTS: https://vascular.stanford.edu/education/curent-fellows-and-residents.html

LOCATIONS:

Virtual conferences and faculty/trainee interactions at all 3 of our sites: Stanford University Hospital, Palo Alto VA Medical Center and Santa Clara Valley Medical Center.

SCHEDULE OF REQUIRED ACTIVITIES:

MONDAY:

- 7-8:30 am Vascular Surgery Conference
  - Interesting cases and/or M&M
- 8:30-9am
  - Welcome/Intro Meeting – **Dr. Venita Chandra**
- 9-10am
  - Professor rounds/case teaching **– Dr. Sorial**
    - Topic: Vascular Anatomy, Imaging/ABIs
    - Pre-reading:
      - Handbook of Patient Care in Vascular Disease by Todd Rasmussen (Chapter 5)
      - NEJM article on PAD (Kullo et al 2016) https://pubmed.ncbi.nlm.nih.gov/26962905/

- 4-5pm
  - Professor Rounds/case teaching- **Dr. Chandra**
    - Topic: PAD/CLTI/Limb Salvage
    - Pre-reading:
      - Handbook of Patient Care in Vascular Disease by Todd Rasmussen (Chapter 13)
      - For additional advanced learning: *Atlas of Vascular Surgery* (Chapters 44-45, 48-49)

- 5-5:30
  - General Program Overview and Bay Area overview- **Dr. Vivian Ho** (PGY 4- PD year)

TUESDAY:

- 7:30-8:00 am
  - Welcome, Stanford culture Review: **Dr. Jason Lee**
- 8-9am (1st and third Tuesdays of the month)
  - Multidisciplinary Endovascular Conference
- 4-5pm
  - Professor Rounds/case teaching- Dr. Aalami
    - Topic: PAD/Claudication/ALTI
    - Pre-reading:
      - Dua et al. JVS 2020. National assessment of availability, awareness, and utilization of supervised exercise therapy for peripheral artery disease patients with intermittent claudication. https://www.jvascsurg.org/article/S0741-5214(19)32184-6/fulltext

- 5-5:30:
  - Applying to vascular surgery principles + Stanford intern experience- **Dr. Shernaz Dossabhoy**

WEDNESDAY:

- 7-7:30am :
  - Welcome, Palo Alto VA Intro: **Dr. Aalami**
- 7:30-8:30am:
  - VA case conference
    - Upcoming case review
- 9-10am:
  - Professor Rounds/Case Teaching – **Dr Jordan Stern**
    - Topic: Aortic Disease
    - Pre-reading:
      - Handbook of Patient Care in Vascular Disease (Chapters 14)
      - For additional advanced learning: Atlas of Vascular Surgery (Chapters 18-21)
      - Relevant videos listed below
- 5:30-6pm:
  - Professional Development at Stanford- **Dr. Kenneth Tran**
- 6-7pm :
  - Wednesday conference
  - Weekly trainee didactic covering Rutherford chapters

THURSDAY:

- 7:30-8am:
  - Welcome, and Stanford Research Opportunity review- **Dr. Dalman**
- 8-9am:
  - Professor Rounds/Case Teaching – **Dr. Katragunta**
    - Topic: Venous Disease
    - Pre-reading:
      - Handbook of Patient Care in Vascular Disease (Chapters 18, 19)
      - For additional advanced learning: Atlas of Vascular Surgery (Chapters 55, 58-60)
      - Relevant videos listed below
- 4-5pm:
  - Professor Rounds/Case Teaching – Dr. Shipra Arya
    - Topic: Cerebrovascular Disease
    - Pre-reading:
      - Handbook of Patient Care in Vascular Disease (Chapter 12)
      - For additional advanced learning: Atlas of Vascular Surgery (Chapter 6)

- Relevant videos listed below

- 5-5:30:
  - A day in the life of a vascular surgery trainee at Stanford- **Drs. Teddy Hart and Patrick Thompson**

FRIDAY:

- 7:30-8am:
  - Welcome and SCVMC Review- **Dr. Garcia-Toca**
- 8-9am:
  - Professor Rounds/Case Teaching – **Dr. Sgroi**
    - Topic: Dialysis Access
    - Pre-reading:
      - Handbook of Patient Care in Vascular Disease (Chapter 20)
      - Gore Combat Manual (Chapters 10-11)
      - For additional advanced learning: Atlas of Vascular Surgery (Chapters 63-65 and 68)
      - Relevant videos listed below

- 9-10am: SCVMC Dialysis Conference
- 3:30—4:30pm:
  - Professor Rounds/Case Teaching – **Dr. Sgroi**
    - Topic: Vascular Trauma
  - Pre-reading:
    - "Overview of Vascular Trauma" chapter by Gabriel J. Bietz and Joseph L. Bobadilla in Clinical Review of Vascular Trauma
    - Relevant videos listed below

- 4:30-5pm:
  - Exit Meeting, Program Review- **Dr. Venita Chandra**

Link to the resources listed above:
https://drive.google.com/drive/folders/1FoGsBN2nc2Hc-C9tc8KOrV_6Ty6TsR8v?usp=sharing

SUGGESTED RESOURCES

First and foremost:

- Read the NEJM article on PAD (Kullo et al 2016)

Must-know concepts:

- Know all the branches (in the correct order) of the aorta starting from the heart and then all the way down to the toes. Know the branches in each extremity as well.
- Know the natural history and diagnostic values (ABIs and U/S velocity) of claudication versus rest pain versus tissue loss for lower extremity PAD

Handbook of Patient Care in Vascular Disease by Todd Rasmussen:

- Good overview of clinical vascular surgery for medical students
- Compact and fits in your white coat pocket; great to read for clinic or during down-time
    - Login info: https://bookshelf.vitalsource.com/#/
    - Username: stanfordvascsubi@gmail.com
    - Password: Arterial2!

Advanced Surgical Recall by Lorne Blackbourne:

- The vascular surgery chapter is short (~20 pages), includes the most commonly asked questions in vascular surgery cases
- Also covers the most commonly asked questions in general surgery cases

Atlas of Vascular Surgery and Endovascular Therapy: Anatomy and Technique by Elliot L. Chaikof and Richard P. Cambria:

- Review Chapters 1-5, which are quite short, but provide an excellent overview of endovascular procedures

Rutherford's Vascular Surgery, 9th Edition by Anton N. Sidawy, Bruce A. Perler:

- *THE vascular surgery textbook*
- Often available online through university libraries

Vascular and Endovascular Surgery E-book by Wesley S. Moore, "*Anatomy and Surgical Exposure of Vascular System"* chapter by Jeffrey Ballard:

- 20-page detailed summary of most common vascular exposures— not as detailed as Valentine's but good for quick review before the case

Anatomic Exposures in Vascular Surgery by Gary G. Wind and R. James Valentine:

- This is a great source for reviewing relevant anatomy for upcoming cases

Gore's Vascular/Endovascular Surgery Combat Manual:

- Good "pocket book" for reviewing major concepts between the cases or during down-time on the floor
- Available online (PDF) https://www.goremedical.com/combat-manual

Landmark Vascular Surgery Clinical Trials:
https://vimeopro.com/user11267838/didactic-lectures/video/228501446

- 30 min lecture by Dr. Orion summarizing the major carotid, AAA, bypass vs endo and thrombolysis trials (would watch multiple times)
- Please see the "Essential Articles in General Surgery" chapter on important vascular papers
- Know the size at which we repair aneurysms in different parts of the body and why (rupture vs thrombosis vs embolization)

Society for Vascular Surgery Guidelines:

- Lastly, for advanced learning, SVS has guidelines for AAA, CLI, WIfI score, blunt traumatic thoracic aortic injury, and management of LSA available at the links below, as well as through the SVS app (Apple/Android app store):
- https://vascular.org/research-quality/guidelines-and-reporting-standards/clinical-practice-guidelines
- CLTI
  - https://www.sciencedirect.com/science/article/abs/pii/S0741521419303210
- AAA
  - https://www.jvascsurg.org/article/S0741-5214(17)32369-8/fulltext
- PAD – asymptomatic & claudication
  - https://www.jvascsurg.org/article/S0741-5214%2814%2902284-8/fulltext
- WIfI score
  - https://www.jvascsurg.org/article/S0741-5214%2813%2901515-2/fulltext
- Blunt thoracic
  - https://www.jvascsurg.org/article/S0741-5214%2810%2901924-5/fulltext
- Management of LSA
  - https://www.jvascsurg.org/article/S0741-5214%2809%2901823-0/fulltext
- Reporting standards for type B aortic dissections
  - https://www.jvascsurg.org/article/S0741-5214(19)32649-7/pdf
- Descending Thoracic Aorta Diseases
  - https://www.ejves.com/article/S1078-5884(16)30178-2/fulltext

Clinical Scenarios in Vascular Surgery by Gilbert R. Upchurch Jr. and Peter K. Henke

- More advanced textbook, helpful for oral board preparation

Audible Bleeding Podcasts

- THE vascular surgery podcast, based out of the Vascular Surgery Fellowship Program at NewYork-Presbyterian

- Features interviews from leaders in the field, VSITE exam review, and updates in guidelines/clinical practice
- https://www.audiblebleeding.com/

Video Resources

Suturing	https://www.youtube.com/channel/UC-0GEHkDCHhI7ankr6HjWfw
End to side anastomosis and patch angioplasty	https://www.youtube.com/playlist?list=PLIBTkGxZozxo5SQdkBkrOtD8TBohkQun
Subcuticular stitch for skin closures	https://www.youtube.com/watch?v=IkX5zMyCV1s&t=283s
Sheath Removal	https://www.youtube.com/watch?v=dSyZWCDG7U8
Ultrasound-Guided Femoral Access	https://www.youtube.com/watch?v=45Rs90giA8E
Transradial Access	https://www.youtube.com/watch?v=8PNzEcvtnkI
Direct Puncture of Vascular Lesions	https://www.youtube.com/watch?v=F-POH4lpX0I
Ultrasound-Guided Jugular Access	https://www.youtube.com/watch?v=UvPc2c_hE9g
Carotid Subclavian Bypass with TEVAR	https://www.youtube.com/watch?v=0SXQwJG4LDI
Carotid-Carotid-Subclavian Bypass	https://www.youtube.com/watch?v=wzHmnIuVgDw
Carotid Endarterectomy (Full)	https://www.youtube.com/watch?v=AWXCpRJAN8M
Carotid Endarterectomy Part 1	https://www.youtube.com/watch?v=wZ8PzhwmSXQ
Carotid Endarterectomy Part 2	https://www.youtube.com/watch?v=E_wWpRKBy4w
Aorta to Right Carotid Bypass	https://www.youtube.com/watch?v=7LIrcSM7_Ic
Temporal Artery Biopsy	https://www.youtube.com/watch?v=zzYRhSfVSBk
Open Repair of Carotid Artery Pseudoaneurysm	https://www.youtube.com/watch?v=xuvCsWb6_YE
Superficial Femoral Artery to Dorsalis Pedis Artery Bypass	https://www.youtube.com/watch?v=QXjsre0kP4k
Left Common Femoral Artery to Anterior Tibial Artery Bypass using PTFE Graft	https://www.youtube.com/watch?v=xG2aF-vNSr4
Left Femoral to Peroneal Bypass by Reversed Ipsilateral Great Saphenous Vein	https://www.youtube.com/watch?v=z9T9DZB6C0g
Posterior Approach Right Popliteal Artery Aneurysm Repair	https://www.youtube.com/watch?v=gaGcnYtKWhk
Popliteal Aneurysm and Fistula	https://www.youtube.com/watch?v=hXV_fGcjdl4
Obturator Bypass	https://www.youtube.com/watch?v=G4FF-9JOV90
Aorto Iliac PTFE Graft (Cadaver)	https://www.youtube.com/watch?v=2RQb29QhFRQ
Exposing Right Iliac Artery for a Distal Anastomosis: Aortoiliac Bypass	https://www.youtube.com/watch?v=NmODIdojDas

Exposing Left Iliac Artery for a Distal Anastomosis: Aortoiliac Bypass	https://www.youtube.com/watch?v=XEJbPA6Hdvg
Open Aorta: Completed Aortoiliac	https://www.youtube.com/watch?v=GnG0WoOLvHY
Right Visceral Rotation	https://www.youtube.com/watch?v=DPxiDYzJwcY
Left Visceral Rotation	https://www.youtube.com/watch?v=KVuMiAuw5zc
Aorta to Superior Mesenteric Artery and Hepatic Artery Bypass	https://www.youtube.com/watch?v=xPNDY2ki_Z0
Aortic Exposure at Hiatus (Cadaver)	https://www.youtube.com/watch?v=dK_KeRv4DKo
SMA Exposure, Thromboembolectomy, Patch Angioplasty and Retrograde Stenting	https://www.youtube.com/watch?v=4vyx9LmJCkA
SMA Aneurysm - Open Surgical Repair	https://www.youtube.com/watch?v=OuK4hgofDjQ
SMA Stenting	https://www.youtube.com/watch?v=-4PXsMu8d9M
Iliac to SMA Bypass Ringed ePTFE	https://www.youtube.com/watch?v=g9F0BIXvFeU
SMA Embolectomy	https://www.youtube.com/watch?v=5Bv_8xPTgPU
Open Repair of Renal Artery Aneurysm in Solitary Kidney	https://www.youtube.com/watch?v=PF5RYg6V4Gk
TEVAR of Contained Rupture Descending Thoracic Aorta	https://www.youtube.com/watch?v=Hlhezm-a9E4
Thoracic Endovascular Repair of Rapidly Expanding False Lumen of Chronic Type III Aortic Dissection	https://www.youtube.com/watch?v=jGkLTCVEQ_I
Ascending Aortic Debranching	https://www.youtube.com/watch?v=y76-6SsCA-E
Endovascular Treatment of Iatrogenic Subclavian Arteriovenous Fistula	https://www.youtube.com/watch?v=J0CvTwIrQuU
Thoracoabdominal Exposure (Cavader)	https://www.youtube.com/watch?v=HEL0o7dbM_g
Open IVC Filter Removal	https://www.youtube.com/watch?v=GCz2L-hgHp0
Left Iliofemoral DVT Thrombectomy Using INARI ClotTriever	https://www.youtube.com/watch?v=NjlQZuBkFAQ
Left Innominate Vein Bypass	https://www.youtube.com/watch?v=U4mpl1W7w4M
Endovenous Laser Treatment (EVLT) of the Greater Saphenous Vein	https://www.youtube.com/watch?v=WGW8BUKp76g
Mechanochemical Endovenous Ablation (MOCA) of the Greater Saphenous Vein	https://www.youtube.com/watch?v=cKzT1k3Ib8k
SVC Replacement	https://www.youtube.com/watch?v=2lVauaz5DY0
Leiomyosarcoma of IVC	https://www.youtube.com/watch?v=yZQKtldcG-8
Thoracic Outlet Syndrome	

First Rib Resection Using an Infraclavicular Anterior Approach	https://www.youtube.com/watch?v=cEEpEC3yTew
Creation of Radiocephalic Fistula	https://www.youtube.com/watch?v=JGJzKRkrzYg
Right Upper Extremity Infected Arteriovenous Fistula Excision	https://www.youtube.com/watch?v=eBBb2rgkjtE
Right Upper Extremity Arteriovenous Fistula Revision	https://www.youtube.com/watch?v=CNEPhctwY28
Left Upper Extremity Brachiobasilic Arteriovenous Fistula Creation	https://www.youtube.com/watch?v=Rn5dO8_-8eo
Arteriovenous Fistula (AVF) Superficialization	https://www.youtube.com/watch?v=G7VG1NgVg-8
Hero Graft Placement	https://www.youtube.com/watch?v=soSHOvSqzlY
Tunneled Dialysis Catheter Placement	https://www.youtube.com/watch?v=nSe4Gceg11w
Tunneled Dialysis Catheter Removal After Inadvertent Placement in Carotid	https://www.youtube.com/watch?v=MWptbmuzEXQ
Cephalic Arch Reconstruction	https://www.youtube.com/watch?v=2uSJYa8l9VE
Left Cephalic Vein Turndown	https://www.youtube.com/watch?v=pfvxvJdcte8