Thank you for your interest in our American Board of Surgery accredited Vascular and Endovascular Residency program at Cooper Medical School of Rowan University. This program offers an integrated 0+5 residency program designed to guide trainees through all essential areas of vascular care following the completion of their medical school education. Cooper University Hospital is the largest academic medical center and the only Level I Trauma Center in Southern New Jersey. The medical center serves the needs of a broad patient population consisting of primary, secondary and tertiary medical care.

Our residency program encompasses a wide breadth of vascular practice from outpatient varicose vein procedures to a robust open aortic experience. Cooper has a strong endovascular experience but we take great pride in the open surgical experience provided by an exceptionally talented faculty.

Joseph V. Lombardi, M.D. F.A.C.S.
Chief, Division of Vascular and Endovascular Surgery
Program Director, Vascular Surgery Fellowship

Both our endovascular and open aortic expertise has been consistently over 90th percentile when compared with other programs.
Program Description

The overall goal of the Vascular Surgery training program at Cooper University Health Care is to provide a foundation for graduates of the program to develop into expert clinicians that are proficient in all aspects of the diagnosis, management, and treatment of vascular disease. These goals are fostered in an environment of progressively graded clinical, operative experience and responsibility. In doing so, the fellow will ultimately exercise mature surgical judgment and operative skills which prepare him/her to provide independent care to patients with vascular disease. Our faculty is enthusiastic, committed to teaching and has over 30 years of fellowship teaching collectively.

The case volume provides ample opportunity for residents to develop and master a large breadth of vascular interventions including both open and endovascular procedures. Recent graduates have been in the 90th percentile relative to their peers for both open and endovascular aortic procedures. During their training, residents have the opportunity to use devices only available through aortic and peripheral clinical trials in addition to newly FDA approved “next generation” devices such as fenestrated endografts for the treatment of complex aortic pathology.

Vascular and Endovascular Residency (0+5)

The integrated Vascular Surgery Residency program is designed to provide residents with a focused understanding of general surgery principles as well as a broader understanding of multidisciplinary aspects that are essential to a modern vascular specialist practice. This will be accomplished through rotations on pertinent clinical services such as radiology, cardiology as well as critical care rotations in surgical, medical, and coronary intensive care units. In addition, there will be core rotations in general and vascular services.

The Vascular Surgery clinical service is divided into three separate components, the ambulatory service, the inpatient service, and the Virtua Voorhees service. Similar to the vascular fellows’ curriculum, the inpatient and outpatient services are designed to provide a focused experience in those areas. The Virta Voorhees service is intended to provide the vascular resident with exposure to a community based vascular experience. Conference schedules and didactics are blended with the fellowship curriculum.

“One of the things that our program prides itself on is the attention to detail we expect out of our trainees. We want our residents and fellows to not just understand vascular surgery but to be fluent in its nuance and subtlety.”

Jose Trani, M.D.
Associate Program Director,
Vascular and Endovascular Fellowship Program
Assistant Professor of Surgery,
Cooper Medical School of Rowan University

cooperhealth.edu
Curriculum

Vascular Surgery residents at Cooper are expected to maintain and expand upon the six core competencies at the foundation of surgery until they have reached the level expected of a new practitioner. The resident will divide time between the inpatient clinical service, the outpatient and percutaneous service. While on the inpatient clinical service, the resident will be expected to manage the intensive care unit and flow patients from pre-operative planning and assessment through the post-operative period. The outpatient experience focuses on ambulatory procedures including percutaneous arterial and venous therapies. The outpatient resident will also have ample time to see and evaluate patients in the many outpatient clinics and to develop familiarity with clinical ultrasonography. Residents are expected to participate in ongoing research with one or several faculty members during their training. Adequate time is allotted to pursue research projects, particularly during the percutaneous rotation.

The Vascular Surgery Residency curriculum will encompass the major areas of modern vascular surgery. Cerebrovascular techniques include carotid artery endarterectomy, both, awake and asleep, as well as carotid stenting are both discussed in detail as well as seen in clinical practice. Aortic interventions, both open and endovascular, encompass both the thoracic and the abdominal aorta and clinically are frequently performed in conjunction with the cardiothoracic service. A full range of peripheral procedures are used from various percutaneous devices designed to cross complete lesions through retrograde approaches for recalcitrant lesions in high risk operative candidates. Open bypass procedures have been increasing in number for good operative risk patients as their patency is unsurpassed by current percutaneous techniques. The practice serves a growing dialysis population with many opportunities to evaluate and treat both late chronic kidney disease patients as well as patients with multiple access failures who are now advanced access patients. Finally, the curriculum and clinical experience are designed to provide ample opportunity to develop a deeper understanding of acute and chronic disease processes, a rapidly growing area of vascular surgery.

Conference Schedule

The Vascular Surgery Residency program provides educational opportunities through both formal and informal settings. The weekly vascular surgery conference is the cornerstone of the formal educational process and is common to both the fellowship and residency program. The conference schedule is designed to encompass all of the major clinical topics germane to clinical vascular surgery and is based upon the Core Curriculum. Conference is conducted in a case-based format with management discussion centered around current literature. Relevant basic science topics are covered...
in a monthly conference. Bi-monthly ultrasound lectures are conducted to provide residents and fellows with a basic understanding of ultrasound physics and sources of imaging error. These lectures, combined with weekly hourly side by side imaging interpretation with a senior vascular ultrasound technologist, provide a solid knowledge base in preparation for the Physician Vascular Interpretation examination. Less formal learning goes on consistently through the interactions between residents and faculty in the form of walk rounds, pre-operative case discussion, and discussion of patient management strategies for patients who present to the consult service.

Journal Club

A monthly Journal Club is designed to familiarize residents with the current vascular surgical literature. Each conference will cover two or three articles and/or clinical guidelines that are selected by a supervising faculty member. Copies of each article should be distributed to all residents, and pertinent faculty one week prior to the Journal Club. The vascular resident should be able to concisely present the purpose and methods of the study as well as review of the figures and results presented in the paper. A vascular surgery faculty member will act as moderator. The goal is to be able to evaluate current literature based upon the data presented, the scientific validity of their observations, and the overall applicability of this information to current practice.

Morbidity and Mortality

A discussion of deaths and complications of patients either on the vascular service or on another service who underwent a vascular procedure will be performed on a bi-monthly basis. Residents are assigned to present case synopses for which they were involved in patient care. Residents are expected to concisely present patients for discussion, including the indication for the procedure, the complication, and outcome. Literature supporting management decisions should also be presented. The vascular faculty will moderate the presentations as well as lead discussions regarding alternative treatment options and the risks and benefits of differing treatment strategies.

“We provide a full range of education in vascular disease including advanced open and endovascular techniques, many of which are only available at our institution.”

Francis Caputo, M.D.
Assistant Professor of Surgery, Cooper Medical School of Rowan University
## Residency Rotation Schedule (0+5)

### Integrated Program Format Year 1

<table>
<thead>
<tr>
<th>Period</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>VRT</td>
<td>VRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>VS</td>
<td>VS</td>
<td>GS</td>
<td>GS</td>
<td>SICU</td>
<td>SICU</td>
<td>GS</td>
<td>GS</td>
<td>RAD</td>
<td>ACS</td>
<td>VS</td>
<td>VS</td>
</tr>
<tr>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
</tr>
</tbody>
</table>

### Integrated Program Format Year 2

<table>
<thead>
<tr>
<th>Period</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>VRT</td>
<td>VRT</td>
<td>CUH</td>
<td>CUH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>GS</td>
<td>Heme</td>
<td>VS</td>
<td>VS</td>
<td>CARD</td>
<td>CICU</td>
<td>ENDO</td>
<td>ACS</td>
<td>VS</td>
<td>GS</td>
<td>GS</td>
<td></td>
</tr>
<tr>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
</tr>
</tbody>
</table>

### Integrated Program Format Year 3

<table>
<thead>
<tr>
<th>Period</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>CUH</td>
<td>CUH</td>
<td>VRT</td>
<td>VRT</td>
<td>CUH</td>
<td>VRT</td>
<td>VRT</td>
<td>CUH</td>
<td>Jeff</td>
<td>Jeff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>TXP</td>
<td>TXP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
</tr>
</tbody>
</table>

### Integrated Program Format Year 4

<table>
<thead>
<tr>
<th>Period</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>VRT</td>
<td>VRT</td>
<td>CUH</td>
<td>CUH</td>
<td>VRT</td>
<td>VRT</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>GS</td>
<td>GSO</td>
<td>VS</td>
<td>VS</td>
<td></td>
</tr>
<tr>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
</tr>
</tbody>
</table>

### Integrated Program Format Year 5

<table>
<thead>
<tr>
<th>Period</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
<td>CUH</td>
</tr>
<tr>
<td>Service</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
<td>VS</td>
</tr>
<tr>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
<td>I/O</td>
</tr>
</tbody>
</table>

---

**Curriculum**

- **GS:** General Surgery
- **VS:** Vascular Surgery
- **SICU/Tsicu:** Trauma/Surgical ICU
- **RAD:** Radiology
- **Heme:** Hematology
- **ENDO:** Endoscopic Surgery
- **CICU:** Cardiac Intensive Care unit
- **CARD:** Cardiology
- **ACS:** Acute Care Surgery

**Locations**

- **CUH:** Cooper University Hospital
- **VRT:** Virtua Hospital, Marlton
- **TXP:** Transplant, Thomas Jefferson Hospital

---

---
How to Apply

ERAS — Residency (0+5)

The Vascular Surgery Integrated (0+5) Residency Program participates in ERAS — the Electronic Residency Application Service. Information regarding the ERAS application process and timeline is available on the website listed below.

Please submit complete application materials by 12/1 through ERAS:

- ERAS common application
- Two letters of recommendation
- Dean's Letter (MSPE)
- Medical School Transcript
- USMLE Report
- Curriculum vitae
- Personal statement describing your training goals and future career plans
- Photograph (optional)
- ECFMG certificate (if applicable)

https://www.aamc.org/students/medstudents/eras/

In addition, Cooper University Health System/Cooper Medical School of Rowan University Programs is to abide by the All In Policy for categorical PGY-1 positions. Participation in the National Resident Matching Program’s (NRMP) computerized match, and rules of the Match Participation Agreement will apply, information on the website listed below.

http://www.nrmp.org/residency/main-residency-match/

The program director and two additional faculty members will review complete applicant files. Invitation for interview will be based upon their recommendations.

Eligibility

- Must be a graduate of an American or Canadian medical school accredited by the Liaison Committee on Medical Education (LCME) or the American Osteopathic Association (AOA).

- If a graduate of a foreign medical school, must be certified by the Educational Commission for Foreign Medical Graduates (ECFMG), earned through passing the Foreign Medical Graduate Examination in the Medical Sciences (FMGEMS), Part 1 and Part II examinations of the National Board of Medical Examiners (NBME), or the United States Medical Licensing Examination (USMLE); and by meeting all other requirements of the ECFMG.

- All medical school graduates must qualify for registration (PGY-1) or licensure (PGY-3 and beyond) as issued by the New Jersey State Board of Medical Examiners.

Contact Information

Program Director:
Joseph V. Lombardi, M.D., FACS
Contact:
Barbara Colna, Coordinator
Phone:
856 · 963 · 6889
Fax:
856 · 365 · 7582
E-mail:
vsprogram@cooperhealth.edu
or
colna-barbara@cooperhealth.edu
Website:
CooperHealth.org/vascular Surgery
Address:
Cooper University Health Care
Division of Vascular Surgery
Three Cooper Plaza, Suite 411
Camden, NJ 08103
It is extraordinary to have such a high concentration of leadership at one institution but, then, Cooper is an extraordinary hospital.

Cooper University Hospital is the center of a growing health science campus that includes the main hospital, Cooper Medical School of Rowan University, MD Anderson Cancer Center at Cooper, the internationally acclaimed Coriell Institute for Research, Three Cooper Plaza medical offices and the Ronald McDonald House.

Adjacent to the Cooper Plaza/Lanning Square neighborhood, Cooper has a long history of outreach and service efforts to its local community. Some of these initiatives include health and wellness programs for the neighborhood, development of three neighborhood parks and playground, and outreach to programs into local schools.

The Hospital’s 312,000-square-foot, 10-story Roberts Pavilion houses state-of-the-art patient care facilities, including 120 private patient rooms, a 30-bed medical/surgical intensive care unit, 12 technologically advanced operating room suites with hybrid imaging capabilities, an advanced laboratory automation facility and a 14,000-square-foot Emergency Department. The Emergency Department features 25 beds, dedicated isolation suites and autonomous CT scanning technology. Two new floors in the Roberts Pavilion, each with 30 private patient rooms, opened in August 2014. The two floors are designed to serve specific patient populations with Pavilion 8 serving a growing advanced-care surgery patient population and Pavilion 9 serving the Cooper Heart Institute for hospitalized heart patients. The Pavilion features an expansive lobby and concourse, a restaurant and coffee shop, health resource center, business center, gift shop and chapel.

The Pavilion also houses the 25,000-square-foot Dr. Edward D. Viner Intensive Care Unit. A design showcase for patient and family-centered care, the unit features 30 private patient rooms equipped with the latest in advanced technology, and allowing 360-degree patient access. Five patient rooms are capable of negative pressure isolation, and five rooms have chambered isolation alcoves. In addition, an enlarged room with operating room caliber lighting is outfitted to perform bedside exploratory laparotomy in patients too unstable for transport to the operating room.

In 2013 Cooper celebrated the opening of MD Anderson Cancer Center at Cooper, the $100 million, four-story, 103,050-square-foot center located on the Cooper Health Sciences Campus in Camden, dedicated to cancer prevention, detection, treatment and research. MD Anderson Cancer Center at Cooper offers South Jersey’s only dedicated inpatient, 30-bed cancer unit adjacent to the new cancer center at Cooper University Hospital. The center includes bright, spacious chemotherapy treatment areas, patient exam rooms, conference centers and advanced diagnostic and treatment technologies. The designers incorporated an aesthetic approach to healing with abundant natural light, a rooftop Tranquility Garden, an illuminated floor-to-ceiling “Tree of Life” centerpiece and more than 100 pieces of original art created by 71 New Jersey artists.
Cooper Medical School of Rowan University Medical Education Building is located on the Cooper Health Sciences Campus on South Broadway, between Benson and Washington Streets in Camden. The new $139 million building, which opened in July 2012, was designed for CMSRU’s curriculum with spaces and technologies to support faculty and students in their educational process. In 2012, CMSRU welcomed the class of 2016 with 50 students.

The Cooper campus is located in the heart of the Camden’s business district. The academic medical center campus is easily accessible by car or public transportation—the commuter high-speed line and bus terminal are located a half-block from the campus. Cooper is a short walk or drive from the exciting Camden waterfront where the New Jersey State Aquarium, the River Sharks stadium, the USS New Jersey and Susquehanna Bank Center are located.

Cooper is conveniently close to Philadelphia. Just a mile-long drive over the Benjamin Franklin Bridge or a ferry boat ride will put you at the doorstep of Philadelphia’s cultural, culinary and historic venues.

South Jersey also offers a range of living and entertainment options. Quaint towns such as Haddonfield and Collingswood are just 10 minutes away. The lights and action of Atlantic City and those other popular beach towns such as Cape May and Ocean City are a one-hour drive from Cooper.
The most up-to-date directions to Cooper University Hospital are available at:

cooperhealth.org/directions