Charleston Area Medical Center is a 950 bed hospital system located in Charleston. CAMC maintains the only Level I Trauma Center in southern West Virginia, a Level I Pediatric ICU, a Level III Neonatal ICU, and is the 11th highest volume heart center in the United States.

Our Vascular/Endovascular group of West Virginia University Charleston Division physicians practice at the Vascular Center of Excellence (VCOE) at Charleston Area Medical Center (CAMC). Located in Charleston, the capital city and most populous area of West Virginia, CAMC is a major referral center for southern West Virginia, southeastern Ohio, and eastern Kentucky.
Our VCOE Physicians offer the following services:

Open Vascular Surgery
Seven full time fellowship trained board certified vascular surgeons staff the open vascular service. Our recent high-volume case-load includes the following procedures annually:
• 200 CEA
• 24 supraortic trunks (innominate/carotid/subclavian; extra-anatomic or intrathoracic repair)
• 60 Complex Aortic Interventions (including suprarenal and thoracoabdominal aortic aneurysm)
• 200 Infrainguinal Reconstructions including distal bypasses
• 10 Visceral Reconstructions (mesenteric/hepatic/renal)
• Venous Ablation (Radiofrequency and Laser)
• 250 Vascular Access Operations for Dialysis
• Complex Vascular Trauma

Endovascular
Over 3000 cases are performed by the vascular faculty annually. These are done by both our vascular/endovascular surgeons and our endovascular interventionalists. Currently we have three dedicated endovascular suites called Circulatory Dynamic Labs (CDL). Our annual volume includes:
• 50 Carotid Stents
• 200 Renal/Visceral stenting
• 100 Endovascular Aneurysm Repair (EVAR)
• 15 Thoracic Endovascular Aneurysm Repair (TEVAR)
• Over 500 Peripheral Interventions
• 50 Complex Venous Interventions
• 20 Branched Fenestrated Grafts for Complex Aortic Aneurysms
• Trauma
• Cerebral Imaging
• Tumor Embolization
• GI Bleeding
• Comprehensive Dialysis Interventions
• Trans Aortic Valve Replacement (TAVR)
Vascular Laboratory
The Vascular Lab is under the direction of Ali F. AbuRahma, MD. Our services cover the following noninvasive vascular techniques such as duplex ultrasound, physiological testing, segmental Doppler pressure with ankle/brachial indices, pulse volume tracings, and various plethysmography techniques.

Our vascular lab has been an ICAVL accredited lab for over 25 years, employs a total of 14 vascular lab technicians (RVT), and has a volume of more than 2,000 studies per month, making it the busiest lab in the Mid-Atlantic region.

Outpatient Vascular Clinic / Vascular Center of Excellence
The Vascular Center of Excellence at Charleston Area Medical Center is a modern out-patient facility with more than 8,000 outpatient vascular visits per year including both new referrals and long term follow-ups.

The vascular service also has a mid-level team of five providers responsible for endovascular and open preadmission testing, follow-up, discharge endovascular patients, hospital consults.
The Charleston Area Medical Center/ West Virginia University Charleston Division of Vascular and Endovascular Surgery offers both a two year vascular fellowship and an integrated 0+5 vascular residency. Both are fully accredited by the ACGME and currently the only approved vascular training programs in West Virginia. The goal of these academic programs is to develop expert clinicians, who are both clinically and academically proficient in all aspects of the diagnosis, management, and treatment of vascular disease.

We encourage all our colleagues to join us in the following on-going activities:

**Weekly Didactic Conference**

The weekly vascular conference series is the cornerstone of the formal educational aspects of the program. The conference is composed of the topics outlined in the APDVS approved training curriculum. The majority of these topics are presented by the vascular faculty; fellows and residents will be required to present topics as well.

**Journal Club**

The journal club occurs monthly and consists of journal articles selected by the faculty. Each trainee will be assigned one article and will present the purpose and methods of the study. A review of the results will follow, along with a discussion on the study, critique of its methods, and results.

**Morbidity and Mortality**

This meeting is held bi-weekly following the didactic conference. Trainees are assigned to present case synopses for which they were involved in patient care.

**Research**

The vascular fellowship program is highly dedicated to academic research and provides its fellows with ample opportunity to develop a similar dedication to research. The vascular faculty has produced more than 500 peer-reviewed publications and several textbooks on vascular surgery. We require vascular fellows to participate in at least two research projects for publication during the fellowship. Residents are required to participate in at least three.

The vascular faculty has also conducted multiple prospective randomized trials: comparing carotid artery closure, which has had major national impact on CEA, CLEVER trial, WALLSTENT MONORAIL trial, and the S.M.A.R.T. SFA trial. Currently, the faculty are conducting various industry supported studies (PEARL II Registry, VESAP trial, CHOICE - Abbott post market carotid stent registry, Mobility- Abbott iliac stenting, Vitality- Medtronic talent stent graft, MOMENTUM trial, REVIVE trial, Zenith Iliac Leg Graft trial, CANOPY carotid stent trial, and the GORE TIGRIS SFA Vascular Stent trial), as well as, investigator initiated trials.
Our eleven full-time WVU faculty members consist of seven fellowship trained board certified vascular surgeons, three vascular interventionists (two interventional cardiologists with additional one year training and certification in endovascular intervention, and another with additional training in vascular medicine and endovascular intervention), and a preventive medicine specialist.

These eleven full-time faculty members are all part of the Department of Surgery at West Virginia University Charleston Division, and are all assigned to the Division of Vascular/Endovascular surgery under the leadership of Ali F. AbuRahma, M.D., our Division Chief.

### Ali F. AbuRahma, MD, FACS, FRCS, RVT, RPVI

- Program Director, Vascular Fellowship and Residency
- Co-Director, Vascular Center Of Excellence
- Professor of Surgery, Chief of Vascular and Endovascular Surgery
- Director, CAMC Vascular Laboratory
- Arizona Heart Institute


**Areas of Interest:** carotid interventions, carotid endarterectomy (CEA) and carotid stenting, endovascular aneurysm repair (EVAR)

### Mark C. Bates, MD

- Co-Director of Vascular Center Of Excellence
- Professor of Surgery/Medicine
- Vascular Medicine and Endovascular Surgery: William Dorros-Isadore Feuer Interventional Cardiovascular Disease Foundation, University of Wisconsin

**Notable achievements:** Over 80 peer review articles and 17 book chapters. Holds over 50 issued or pending US patents including stents, protection devices, and cell delivery systems for angiogenesis, drug delivery platforms and in-situ stents. Editorial board of Catheterization and Cardiovascular Interventions, Journal of Endovascular Therapy, Journal of Interventional Cardiology. Primary Investigator for the HERCULES renal stent trial sponsored by Abbott and local PI for over 50 medical device trials at Charleston Area Medical Center.

**Areas of Interest:** New innovations in vascular medicine and endovascular surgery

### Patrick A. Stone, MD, FACS, RVT, RPVI

- Associate Program Director
- Associate Professor of Surgery
- Vascular Surgery: University of South Florida

**Areas of Interest:** complex endovascular interventions, open aortic reconstruction
Aravinda Nanjundappa, MD, RVT, FACC, FSCAI, MBA
Professor of Surgery/Medicine
Interventional Cardiology with additional year of peripheral vascular intervention: Washington Hospital System
Areas of Interest: critical limb ischemia, carotid artery stenting, EVAR and TAVR

Stephen Hass, MD, JD
Associate Professor of Surgery
Vascular Surgery: University of Maryland
Areas of Interest: complex infrainguinal reconstruction, mesenteric revascularization, vascular trauma, dialysis access

John Campbell, MD
Associate Professor of Surgery/Medicine
Vascular Medicine: Interventional/Vascular Medicine - CAMC
Areas of Interest: renal artery stenosis, mesenteric revascularization, dialysis access

Albeir Mousa, MD, FACS, RPVI, MPH
Associate Professor of Surgery
Vascular Surgery: UMDNJ
Areas of Interest: aortic, carotid, and venous interventions

James Campbell, MD
Assistant Professor of Surgery/Medicine
Internal Medicine/Preventive Medicine: West Virginia University
Areas of Interest: multidisciplinary, perioperative care, in depth vascular risk factor modification

Shadi Abu-Halimah, MD
Assistant Professor of Surgery
Vascular Surgery: University of North Carolina
Areas of Interest: branched/fenestrated endografts, thoracoabdominal aneurysm repair, complex venous reconstruction

Mohit Srivastava, MD, RPVI
Assistant Professor of Surgery
Vascular Surgery: CAMC/West Virginia University Charleston
Areas of Interest: complex infrainguinal reconstruction, dialysis access

Michael Yacoub, MD, RPVI
Assistant Professor of Surgery
Vascular Surgery: CAMC/West Virginia University Charleston
Areas of Interest: open aortic and visceral arteries reconstruction, fenestrated endografts, and vascular trauma