

Vascular Surgery

Comprehensive Care
for All Vascular Conditions



**Weill Cornell
Medicine**

 **NewYork-
Presbyterian**



COLUMBIA



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Vascular Surgery

Vascular disorders can range from cosmetic issues and those causing discomfort to more serious life-threatening conditions. At NewYork-Presbyterian, our vascular surgery team is experienced in minimally invasive endovascular approaches and open surgical procedures to restore blood flow to occluded arteries and veins. From diagnosis through treatment and follow-up, patients receive state-of-the-art care.

Our vascular specialists have extraordinary expertise performing endovascular and surgical procedures — some of which they pioneered.

We try whenever possible to treat vascular disorders using medication, lifestyle changes, or other nonsurgical treatments. When these approaches are not enough, we offer the latest endovascular therapies and open vascular surgery. Most of our vascular procedures can be completed using minimally invasive endovascular techniques. Our vascular specialists have extraordinary expertise and experience in the performance of these procedures — some of which they pioneered.

Our vascular services are available in a variety of locations to meet patients' needs. Since people with vascular disorders often have other medical conditions requiring treatment — such as advanced diabetes, heart disease, and renal disease — we can also connect them with any other physicians they may need, all through the same medical center. Seamless communication among our team members results in comprehensive care that puts patients on the road to better health.



Who We Treat

Our vascular specialists treat patients with:

- Abdominal aortic and iliac artery aneurysms
- Thoracic aortic aneurysm and dissection
- Thoracoabdominal aortic aneurysm and dissection
- Carotid artery disease
- Deep vein thrombosis and thrombophlebitis
- Peripheral artery disease (PAD)
- Varicose veins and venous insufficiency
- Chronic limb-threatening ischemia (CLTI) and diabetic foot ulcers
- Patients needing arteriovenous access for dialysis
- Renal and mesenteric artery disease
- Less common vascular conditions such as Buerger's disease, fibromuscular dysplasia, Marfan syndrome, Raynaud's syndrome, scleroderma, and thoracic outlet syndrome

Customized Aortic Aneurysm Repair

Our vascular specialists tailor abdominal and thoracoabdominal aortic aneurysm repair to each patient's needs. Most younger, healthy patients with aortic disease fare better with open surgical approaches, while high-risk patients who cannot tolerate open surgery may be better suited to an endovascular approach. High-risk patients may include those over age 80 and patients with advanced chronic obstructive pulmonary disease or other respiratory issues, poor cardiac function, dialysis-dependent end-stage renal failure, or a new aneurysm next to one that was previously repaired with an open surgical procedure. Our vascular surgeons have experience performing the most current treatments and surgeries, including endovascular or open repair of abdominal aortic aneurysms, thoracic aortic aneurysms, and thoracoabdominal aneurysms.

- **Aortic aneurysm surgery.** Our surgeons sew a graft in place to reinforce the weakened walls of the aorta, reducing pressure on the walls and allowing blood to flow normally to the legs and other organs.
- **Endovascular abdominal aortic aneurysm repair (EVAR).** Our vascular specialists can repair abdominal aortic aneurysms and dissections with endovascular stent grafts when appropriate. These procedures can often be performed under local anesthesia with little or no incision.
- **Fenestrated endograft for abdominal aortic aneurysm repair.** Some thoraco-abdominal and complex abdominal aortic aneurysms that involve the segment of the aorta where the major branches to the abdominal organs arise require treatment with specialized stent grafts. We are participating in clinical research evaluating novel “fenestrated” and “branched” stent grafts for patients with these complex aneurysms, which are implanted during a minimally invasive procedure. We are one of only a few centers in the United States with access to these custom manufactured devices and have exceptional experience in their use. Our vascular surgeons insert these grafts through a catheter threaded through an arm or leg and are able to treat patients who may not be candidates for repair using open surgical approaches.
- **Thoracic aortic aneurysm repair (TEVAR).** Complex thoracic aortic and arch aneurysms are managed with a multidisciplinary approach by our vascular surgeons and cardiothoracic surgeons. Patients with complex disease in the aortic arch, thoracic aorta, and its branches can now be treated with an endovascular approach using the first available aortic arch branch device. NewYork-Presbyterian is the only center in New York and one of just ten centers in the U.S. to offer this procedure.





Carotid Artery Disease: Safer Stent Placement

Treating carotid artery disease is critical to prevent a stroke. Our vascular specialists are experts in traditional carotid endarterectomy surgery and the placement of carotid stents. In addition, we offer the newest technology: transcarotid artery revascularization (TCAR), a less invasive alternative to carotid endarterectomy and a safer approach than traditional carotid stenting. The stent is placed through a small access point in the base of the neck and blood flow through the artery is reversed, protecting the brain from any plaque that could break loose during the procedure. Once the stent is in place, normal blood flow is resumed. NewYork-Presbyterian is offering this procedure clinically and through clinical trials.

Peripheral Arterial Disease: Saving Life & Limbs

Patients with peripheral arterial disease (PAD) require early diagnosis and treatment, which is important not only to improve circulation in the leg, but also to prolong life and prevent critical limb ischemia and the need for amputation. They often have diabetes and cardiovascular problems that require treatment. An early diagnosis plus medical treatment, exercise, and a healthy diet can reduce the risk of heart attack, stroke, and other morbidities and improve a patient's quality of life.

We assemble a team of specialists for each patient that includes all the doctors he or she may need, such as vascular surgeons, podiatrists, wound care specialists, plastic surgeons, infectious disease specialists, endocrinologists, and cardiologists. NewYork-Presbyterian offers the most advanced chronic limb preservation programs by creating a personalized team specific to each patient's needs, with the goal of improving circulation and avoiding amputation. We are also involved in advanced clinical trials of cutting-edge peripheral interventions, which we can offer to our patients.

Our surgeons offer endovascular and surgical approaches to restore peripheral blood flow and avoid amputation.

Patients who need an endovascular approach or vascular surgery may benefit from:

- **Balloon angioplasty** to compress the plaque, widen the artery, and restore blood flow.
- **Stenting** to bridge the site of the blockage and provide a reinforced channel through which blood can flow to the affected limb.
- **Atherectomy** to remove plaque from the lining of the narrowed artery.
- **Conventional vascular surgery** such as peripheral artery bypass surgery (rerouting blood flow as a detour around the blockage) or endarterectomy (surgically removing the plaque).



Deep Vein Thrombosis (DVT)

The prompt and effective treatment of DVT is vital to prevent pulmonary embolism or post-thrombotic syndrome (permanent vein damage which can cause varicose veins, pain, swelling, and, in some cases, skin ulcers). For patients with DVTs that cannot be treated successfully with medication or rest and compression alone, our specialists can use vascular techniques such as iliac angioplasty, stenting, and clot extraction. The surgeon can insert a catheter into the vein and introduce a device to break up the clot while delivering clot-busting medication.

Venous Insufficiency, Varicose Veins, and Venous Ulcers

Patients who have had long-term untreated venous insufficiency can experience leg heaviness, painful varicose veins, and — in the most severe forms — venous ulcers in the skin. When compression stockings, lifestyle changes such as exercise, and medications and topical skin treatments fail to resolve the problem, our vein specialists offer minimally invasive procedures to improve the function of the vein and enhance quality of life — even before venous ulcers develop.

Treatment of vein problems may require simple outpatient procedures including thermal or nonthermal ablation of the underlying veins, injections, or removal of the veins — all of which can improve symptoms and leg appearance. More complex problems may require the use of ballooning, venous or vena caval stents, or radiofrequency or laser therapy to treat abnormal veins. These treatments can restore proper blood flow, improve the rate of ulcer healing, and reduce the risk of venous ulcer recurrence.



Renal and Mesenteric Artery Disease

NewYork-Presbyterian's vascular specialists have exceptional experience treating blockages in the renal and mesenteric arteries. Patients are initially treated with medications and lifestyle changes. If those therapies are not effective, we offer minimally invasive interventional procedures and surgery if needed to improve perfusion.

Patients who need an endovascular approach or vascular surgery may benefit from:

- **Balloon angioplasty** to compress the plaque, widen the artery, and restore blood flow.
- **Stenting** to bridge the site of the blockage and provide a reinforced channel through which blood can flow.
- **Arterial bypass surgery**, inserting a synthetic bypass graft or a natural vein to divert blood flow around the blockage.
- **Dialysis access** by creating a fistula or a graft. In both cases, an artery is connected to a vein to increase the blood flow through the vein. Over time, the vein enlarges, carrying more blood and making it easier for dialysis technicians and nurses to gain access to the patient's bloodstream.

Thoracic Outlet Syndrome

Thoracic outlet syndrome (TOS) arises from compression of either the subclavian artery (arterial TOS), the subclavian vein (venous TOS), or the brachial plexus (neurogenic TOS). Symptoms of TOS include pain in the neck and shoulder areas and numbness in the arm and hand. Our vascular surgeons are skilled in first rib resection and scalenectomy — a technique where part of the first rib and the scalene muscle are removed to relieve the compression and restore comfort.

Clinical Trial Opportunities

Investigators at Columbia University and Weill Cornell Medicine are conducting clinical trials assessing promising new treatments for vascular diseases. Through extensive and innovative research programs, they are developing and assessing new techniques and tools, such as novel aortic and peripheral stents, designed to promote better outcomes and improve the quality of life for patients following vascular surgery. Patients may have an opportunity to participate in one of these innovative studies.

Visit jcto.weill.cornell.edu/open-clinical-trials to find clinical trials at Weill Cornell Medicine and recruit.cumc.columbia.edu to find studies at Columbia University Irving Medical Center.

Make an Appointment

To make an appointment or refer a patient for a consultation with a vascular surgeon at NewYork-Presbyterian:

NewYork-Presbyterian/Columbia University Irving Medical Center

630 West 168th Street

New York, NY 10032

212-342-3255

NewYork-Presbyterian/Weill Cornell Medical Center

525 East 68th Street

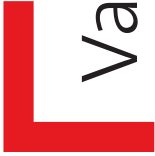
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