

Georgetown University Hospital is a 609-licensed bed, not-for-profit, acute care teaching and research facility based in Northwest Washington, DC. Georgetown's clinical services represent one of the largest, most geographically diverse and fully integrated health care delivery networks in the area. Georgetown is home to the internationally known Lombardi Comprehensive Cancer Center, as well as nationally ranked programs in neurosciences, gastroenterology, gynecology, orthopedics and urology. Visit our web site at www.georgetownuniversityhospital.org.

We're Only a Phone Call Away

For more information about the Vascular Diseases Program, call **Georgetown M.D.**, our free physician referral service staffed by nurse counselors. We can put you in contact with the doctor who best meets your personal and medical needs, and can arrange an appointment. All physicians involved in **Georgetown M.D.** are associated with Georgetown University Hospital.

Call **202-342-2400** or toll-free, **866-745-2633**, Monday through Friday, 8 a.m. to 8 p.m.



Georgetown
University
Hospital 

The name you know.
The doctors you trust.

MedStar Health

3800 Reservoir Road, NW
Washington, DC 20007

www.georgetownuniversityhospital.org

09/04.25K.pwd



Experts in Diagnosing and Treating Circulatory Disorders



Georgetown
University
Hospital 

MedStar Health

Contemplating our body's circulatory system (which supplies nourishment to all of the tissue located throughout our body) could be considered mundane, but disorders of the vascular system – especially the aorta – can be life threatening.

Disorders of the body's circulatory system can lead to loss of life and limb or a disabling stroke. Unfortunately, problems in circulation may not be discovered until one of these events occurs. And that's why each of the experienced members of Georgetown University Hospital's Vascular Diseases Program emphasizes prevention and early detection of circulatory problems.

When a problem is discovered, we offer a wide range of treatment options based on our **clinical experience** and **academic research** involving a wide variety of vascular disorders. We utilize the extensive resources of one of the finest hospitals in the area to offer our patients and their families access to state-of-the-art care. **Our physicians are specialized in the diagnosis and treatment of vascular disease and are internationally recognized vascular specialists who provide comprehensive care - from medical and rehabilitative therapies to minimally invasive endovascular and open surgical procedures.**

Drs. Deaton and Neville look at a CT scan in 3-D of an abdominal aortic aneurysm.

Peripheral Vascular Disease

As a patient, you have the convenience of having specialists from several disciplines all in one location. Whether it is inpatient or outpatient services, advanced preventative care or participating in clinical trials, Georgetown's Vascular Diseases Program offers it all. We are experts in diagnosing and treating:

- aortic aneurysms
- stroke prevention
- carotid arterial disease
- lower extremity arterial insufficiency
- renovascular hypertension
- venous disease

The term *peripheral vascular disease* refers to partial or complete blockage of major vessels outside of the heart that supply blood to other important areas of the body, such as the brain, kidneys, arms and legs. There are two types: **peripheral arterial disease (PAD)** and **peripheral venous disorders**.





PAD refers to diseased peripheral arteries wherein they become hardened and narrowed. It is a “silent” condition that often has no symptoms. More than 20 percent of people over age 70 in this country have PAD. Some variations include:

Carotid artery disease. Narrowing of one or more carotid arteries in the neck, which supply oxygen-rich blood to the brain. When plaque in the carotid arteries becomes very severe, a stroke can occur. Stroke is the third leading cause of death in the nation today. Even stroke survivors are frequently left with permanent physical and mental disabilities.

PAD of the lower extremities (legs). Narrowing of one or more arteries in the leg. This condition leads to pain and ulcers that don’t heal, or amputation of a limb.

PAD of the renal arteries. Narrowing of one or more renal arteries leading to the kidneys. Renal artery blockages can lead to hypertension or kidney failure and the need for dialysis.

Abdominal aortic aneurysm (AAA). Ballooning out of part of the abdominal aorta wall that is a section of the blood vessel supplying oxygen-rich blood from the heart to the body. AAA is the number three cause of sudden death in the nation.

Raynaud syndrome. A reversible condition where the fingers or toes start throbbing and turning a whitish color because a contraction (vasospasm) of the small arteries has interfered with blood flow.

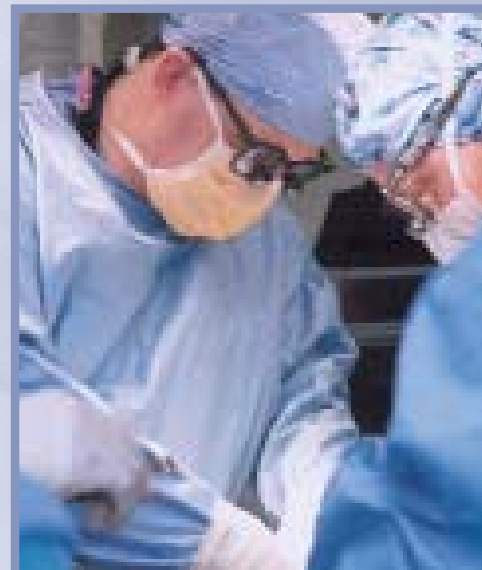
The second type of peripheral vascular disease is **peripheral venous disorders**, referring to problems in the peripheral veins such as:

Thrombophlebitis (including *superficial vein thrombosis* and *deep vein thrombosis*). An obstructing blood clot (which is a thrombus) has formed, causing the surrounding veins to become inflamed (phlebitis).

Varicose veins. Abnormally widened veins that are swollen, dark and frequently twisted or contorted instead of straight. They usually occur in the legs, and may cause swelling (edema), pain and a dark color around the ankles.

Chronic venous insufficiency. An advanced stage of leg vein disease where the veins become incompetent causing blood to pool in the legs and feet. The blood is not returned to the heart properly, resulting in swelling and leg ulcers.

Dr. Deaton performs an open repair of an abdominal aortic aneurysm with renal artery reconstruction.



Risk Factors

There are numerous factors that might contribute to peripheral vascular disease.

- Risk factors for PAD include a family history of atherosclerosis, high blood pressure, smoking, diabetes or kidney disease.
- Risk factors for peripheral venous disorders include lack of exercise, obesity and long periods of immobility such as bed rest after surgery or long airplane trips.

Vascular disease can lead to stroke, loss of a limb and death due to rupture of an aneurysm. Unfortunately, vascular disease often goes undiagnosed due to a lack of awareness.

If you have any of these problems, ask your doctor about your risks for vascular disease. Men are thought to be more likely than women to have PAD, but women are catching up rapidly and are certainly not immune, particularly if they have those other risk factors.



Mildred Crowder undergoes a non-invasive arterial study of the right arm to assess blood flow to her hand.

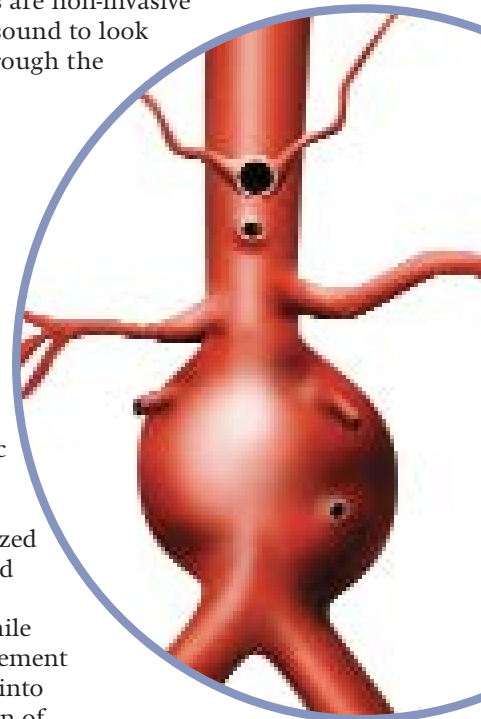
How Vascular Disease is Diagnosed



Often vascular disease can be identified from a history and physical exam by someone expert in the field. Additional diagnostic tests and procedures are used to determine if a person has significant vascular disease, the severity and the most effective treatment methods.

Initial diagnostic tests are non-invasive through the use of ultrasound to look at vascular structures through the skin. **These tests have become very precise and sophisticated, providing the information that is needed for treatment tailored to an individual's particular condition.**

If the non-invasive tests indicate the need for more information, then additional diagnostic tools are used such as magnetic resonance imaging (MRI), computerized tomography (CT) scans and arteriograms. MRI and CT scans are non-invasive, while arteriograms involve placement of a small catheter (tube) into an artery and the injection of fluid to give an exact picture of the arteries and of any blockages.



Schematic Drawing of a Large Abdominal Aorta Aneurysm

Our physicians routinely repair abdominal aortic aneurysms with either a minimally invasive procedure using an aortic endograft or with an open surgical procedure.

The Georgetown Difference



The Vascular Diseases Program at Georgetown uses a patient-oriented approach in a “one-stop-shopping” format. We offer expertise across the entire spectrum of non-invasive diagnosis, medical therapy, vascular surgery and interventional procedures. **Our specialists are experts at performing the complex diagnostic tests and treatment regimens required.** Although peripheral vascular disease can often be treated with lifestyle changes and risk factor management, medications (such as sclerosing agents or blood thinners), catheter-based treatments or open surgery may be required.

The **Non-Invasive Diagnostic Vascular Laboratory** offers vascular screening, diagnosis and follow-up services to individuals with possible or existing vascular

conditions. For example, Georgetown doctors are able to use ultrasound technology to diagnose carotid artery disease to prevent stroke, detect decreased blood flow to the legs to prevent amputation and diagnose abdominal aortic aneurysms that could burst and possibly lead to death.

Dr. Neville in our state-of-the-art interventional suite where angiograms, angioplasty, stenting and other procedures are performed.



Georgetown’s state-of-the-art **Peripheral Vascular Intervention Laboratory** offers advanced catheterization technology and clinical expertise to diagnose and treat vascular disorders in a minimally-invasive manner. Services include catheter-based diagnosis, angioplasty (balloon therapy) to open narrowed arteries, implantation of tiny metal stents to hold open arteries, and placement of stent-grafts to bypass blocked arteries, and can open up blocked arteries to improve circulation. These interventions can help patients avoid invasive surgery. Rather than undergoing open surgery, the patient may have the option of a less-invasive, catheter-based therapeutic procedure.

Our team is dedicated to avoiding invasive treatments when possible. However, if invasive treatments become necessary, our physicians are recognized experts in carotid surgery, leg bypass and aortic surgery, as well as varicose veins.

This expertise and the experience of the surgical team at Georgetown add up to better outcomes for our patients.

Surgical procedures include:

- Carotid artery procedures for stroke prevention
- Abdominal aortic aneurysm repair
- Abdominal artery bypass procedures
- Lower extremity bypass procedures
- Hemodialysis access
- Surgery for thoracic outlet syndrome
- Venous procedures for varicose veins and venous insufficiency
- Endovascular abdominal aortic aneurysm repair
- Lower extremity angioplasty
- Lower extremity stents
- Thrombolysis
- Carotid artery stents

The Vascular Team at Georgetown



Dr. Richard Neville, Jr. is Chief of the Division of Vascular Surgery. His special interests include lower extremity revascularization for limb salvage and carotid artery disease to prevent stroke. Dr. Neville is a Distinguished Fellow of the Society for Vascular Surgery and a past President of the Chesapeake Vascular Society. He has done over 100 publications and 75 invited lectures, as well as appearing as a vascular expert on *Nightline* (ABC News). Dr. Neville has developed a special type of leg bypass that helps restore circulation to the leg and prevent amputation.



Dr. David Deaton is Chief of Endovascular Surgery. He expanded Georgetown's conventional and minimally invasive vascular surgery to include the use of stents and endovascular grafts. Dr. Deaton was one of the pioneers in the development of endovascular aortic grafts and was one of two physicians chosen to present the data to the FDA panel that unanimously approved the first endovascular aortic graft in the nation in 1999.



Dr. James Laredo has published over 25 articles in peer-reviewed basic science and surgical journals and has made over 25 presentations at national and international scientific meetings. In addition to his interests in clinical vascular and endovascular surgery, he has an interest in surgical education. His research interests include the development of novel therapies for the treatment of atherosclerotic vascular disease and mechanisms of vascular bypass graft failure.