A profusion of new developments has driven the advancement of the field of vascular surgery over the last two decades. On Long Island, Suffolk Vascular Associates has and continues to shepherd the developing specialty into the 21st century through innovative solutions to traditional surgical approaches. These novel techniques and technologies are minimizing discomfort and improving outcomes for patients.

From Experimental to the Standard of Care: Vascular Management at Suffolk Vascular Associates

Since its founding in 1995, Suffolk Vascular Associates has grown alongside the field of vascular surgery, moving away from painful, open procedures — such as vein ligation and stripping — to advanced, minimally invasive interventions that can be performed in an outpatient setting in one of the practice’s two offices, located in Port Jefferson Station and Smithtown. The more patient-centric approach to care allows Suffolk Vascular Associates to blend the curative aspects of vascular surgery with the modern focus of patient comfort and convenience.

“During the past 10 to 15 years, vascular surgery has developed numerous less invasive ways of treating patients. Generally, many of these procedures are done without surgical incisions by accessing the vascular system through small punctures in the groin or the upper extremities,” says Robert Pollina, M.D., FACS, vascular and endovascular surgeon and founder of Suffolk Vascular Associates. “With the use of guidewires, catheters, balloons and stents, we’re able to open up arteries that, in the past, would have required a more open surgery.”

Residents on Long Island now have access to these advanced vascular technologies and techniques, performed by Suffolk Vascular Associates’ team of expert specialists within a comfortable setting that’s close to home.

A Coming-of-Age Story

When Dr. Pollina completed his medical education and general surgery training at the State University of New York Downstate Medical Center, the landscape of vascular surgery was shifting more and more toward minimally invasive methods of addressing aneurysms, blockages and venous insufficiencies. He completed a vascular fellowship, which included training in endovascular techniques, at Maimonides Medical Center and
then founded Suffolk Vascular Associates. He explains that, even two decades ago, hospitalizations following vascular procedures could span three days to several weeks, and recovery periods were measured in weeks or months than in the few days it takes today’s patients to return to their normal routines.

According to the review “Recent Developments in Vascular Surgery,” published in the October 2003 issue of BMI, the field of vascular surgery has been gradually separating from its roots in general surgery as vascular techniques continue to evolve. While modern surgery was born from the necessity to treat gunshot wounds on the battlefield during the Napoleonic Wars, the more delicate approach of vascular surgery can be traced back to Warren Forceman, who used X-ray guidance to thread a catheter into his own heart in the 1950s.

A windfall of new developments followed in the next two decades, including the invention of synthetic grafts to replace segments of the aortic vein in the event of aortic aneurysms; the establishment of catheters and balloons as tools to clear blocked arteries; and the introduction of duplex ultrasound scanning, microsurgery techniques and vascular laboratories. As Dr. Pollina explains, each advance emerged as an experimental measure — especially those aimed at treating venous surgery — but today, the same approaches remain as standards of care and are considered prior to contemplating an open surgical procedure.

These changes have been aided in large part by the matching strides made in the realm of diagnostic vascular imaging. Radiopaque contrast angiography dates back to 1929, and its continued evolution has paved the way for the minimally invasive techniques Dr. Pollina uses today. Computed tomography (CT) angiography produces multiplanar reconstruction by imaging the flow of radiopaque contrast in the injection’s first pass through the arterial bed of the diseased portion of the patient’s vascular system.

Magnetic resonance angiography (MRA) does not require contrast material and instead relies on the equipment’s electromagnetic field energy to build an image from differential atomic signals in the patient’s soft tissue. Particularly useful for endovascular stenting procedures, intravascular ultrasound provides detailed identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. “Ultrasonography, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasonography, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter. Ultrasound, CT and MRA scanning have paralleled the advancements in identification of abnormal and diseased vessel walls. The imaging modality can also verify the secure placement of a stent after it is deployed from the catheter.
identifying A vascular Care candidate

THE NATIONAL INSTITUTES OF HEALTH estimates that 8 million to 12 million Americans experience some form of peripheral arterial disease (PAD). That statistic is one of many demonstrating the prevalence of vascular disease within the aging American population. Unfortunately, some conditions of the vascular system are asymptomatic until a devastating or fatal first presentation, such as an aneurysm rupture or a stroke caused by advanced carotid artery disease.

To help Long Island primary care providers identify patients who would be appropriate candidates for medical management or minimally invasive surgical intervention, Robert Pollina, M.D., FACS, vascular and endovascular surgeon at Suffolk Vascular Associates, recommends proactive screening based on each patient’s risk factors. General risk factors for vascular disease include diabetes, family history, high blood pressure, high cholesterol, smoking history and being older than 65. Patients who have or are at risk of developing cardiovascular disease are at a higher risk for experiencing vascular disease.

Should a patient older than 50 have any of these risk factors, he or she should undergo the recommended vascular screenings, including blood pressure evaluations — specifically in the legs — and an ultrasound of the carotid arteries to determine the patient’s risk of stroke. The Society for Vascular Surgery also offers specific screening guidelines for abdominal aortic aneurysm (AAA).

These ultrasound scans should occur on a one-time basis for men older than age 65; men with a family history of AAA should undergo screening at age 55. Women should be screened on a one-time basis after age 65 if they have a family history or smoke. Should these initial scans reveal an aortic diameter of greater than 2.6 centimeters, patients should be screened annually. Risk factors that can indicate AAA include atherosclerotic disease, cerebrovascular disease, hypertension, male gender and Caucasian race, in addition to the risk factors of vascular disease.

More Than Just the Heart

Suffolk Vascular Associates commonly diagnoses and treats all types of arterial disease, including peripheral artery disease (PAD), aortic aneurysms, carotid artery disease and venous disease. According to the Society for Vascular Surgery, nearly 40 million Americans suffer from varicose veins, the nation’s most prevalent venous disease. Varicose veins affect women more than men and occur when the normally tightly functioning valves in the deep, perforating and superficial veins stretch and fail to stop the downward flow of blood.

PAD — which the Centers for Disease Control and Prevention (CDC) reports impacts more than 25% of the American male population older than age 80 and more than 20% of American women in the same age bracket — develops when plaque accumulates along the walls of the arteries in the legs and blocks the normal flow of blood. One of the major indicators of PAD, intermittent claudication is pain that occurs in a patient’s legs during movement then subsides at times of rest. According to Suffolk Vascular Associates, approximately 50% of patients with PAD will experience this symptom, which is a sign of how severe the disease has become.

Similarly, Dr. Pollina explains, the first indications of aneurysm and carotid artery disease can present when a patient is far along in the condition process. According to the CDC, the former has been on a steady decline since 1997; however, if not detected by appropriate screening, the asymptomatic condition can lead to a potentially fatal rupture. In the case of carotid artery disease, unidentified narrowing or blockages of the arteries can develop into severe complications such as stroke.
To address the myriad conditions of its patients, Suffolk Vascular Associates offers the latest techniques and technologies including angioplasty, atherectomy, endovascular venous laser and radiofrequency ablation, surgical repair of aneurysms, and stenting procedures.

“We also perform the maintenance and surveillance of dialysis access for grafts and fistulas,” says Dr. Pollina. “They are procedures done in the office under a local anesthetic. Patients can go right from the Suffolk Vascular Associates office to their dialysis treatments.”

**Ambulatory Model of Care**

The majority of the interventions at the Long Island practice are performed on an outpatient basis in the office setting without disruption to the patient’s life. Patients are able to return to their normal lives and work activities within hours of treatment. Suffolk Vascular Associates’ focus on outpatient approaches matches a growing trend in ambulatory surgery. According to the CDC’s National Center for Health Statistics, the number of outpatient surgery visits to freestanding surgical centers rose threefold between 1996 and 2006 to account for two-thirds

Every patient is treated compassionately with the highest levels of respect and dignity.
Moving vascular care out of the hospital operating room and into the realm of minimally invasive office procedures has broadened the reach of treatments. Patients suffering from arterial disease who also have severe comorbidities did not previously qualify for major surgery. They are now more suitable candidates for the types of endovascular procedures — such as angioplasty and stenting — that Dr. Pollina’s team offers at Suffolk Vascular Associates.

A similar barrier to care has been overcome by patients with varicose veins. Before the advent of minimally invasive techniques for the venous condition, patients would have undergone vein stripping, which involved tying off and removing the varicose branches with vein hook instruments through small incisions in the leg.

“In the past, patients with varicose veins felt that they only had more complex surgical procedures as treatment options that might have been more painful or involved more downtime. They may have ignored their symptoms and avoided treatment because of those concerns,” says Dr. Pollina. “Now, treatment for varicose veins is done in the office setting with virtually no downtime. The procedures are nearly painless, and they don’t detract from a patient’s quality of life at all.”

As Dr. Pollina explains, procedures for venous diseases are typically patient-driven. Once a patient’s case and imaging studies are thoroughly evaluated and the most appropriate course of treatment is determined, the patient is scheduled at his or her convenience, and only minimal sedation is required with the advanced approaches. Suffolk Vascular Associates is one of the only practices on Long Island to offer both laser and radiofrequency ablation treatments for varicose veins.

In the case of both modalities, Dr. Pollina makes a tiny puncture in the patient’s lower leg. With the assistance of ultrasound guidance, he places a fine catheter inside the vein to close off the varicose saphenous vein by applying laser or radiofrequency energy to the diseased portion of the vascular system. Through the advancements in catheter and guidewire technology, Dr. Pollina can perform these procedures — as well as endovascular approaches that involve pressing plaque into the artery wall and placing a stent to permanently hold the artery’s structural integrity — through incisions that are so small they often need only a small bandage.

Beyond Surgery

According to the Society for Vascular Surgery, 80% of patients referred to a vascular specialist can be treated nonoperatively with medication and observation. Yet, a perception of the vascular field is that it strictly addresses surgical intervention for the heart and varicose veins. The reality, however, is that vascular practices such as Suffolk Vascular Associates involve both medical and surgical aspects of the comprehensive management of vascular diseases and conditions. Vascular surgeons are trained to provide expert care in the areas of aortic aneurysms, lymphatic insufficiency, peripheral vascular atherosclerosis and venous diseases.

While their array of treatment options can include open surgical approaches to those conditions, these specialists are adept at performing minimally invasive endovascular procedures, including angioplasty, stenting of blockages, graft repairs, and arterial and venous reconstructions. Vascular surgeons at Suffolk Vascular Associates are also skilled in accurately interpreting the advanced forms of diagnostic vascular imaging studies, such as computed tomography and magnetic resonance imaging, duplex ultrasound, and pulse volume and segmental pressure recordings — which can lead Robert Pollina, M.D., FACS, vascular and endovascular surgeon at Suffolk Vascular Associates, and his colleagues to recommend long-term medical management coupled with observation and screening rather than surgical intervention.

The comprehensive approach to a patient’s vascular system, from proper diagnosis to surgical treatment, has been particularly instrumental in decreasing the rate of amputation of the lower extremities. According to a study published in the Journal of Vascular Surgery, “National Trends in Lower Extremity Bypass Surgery, Endovascular Interventions, and Major Amputations,” the incidence of major lower extremity amputation was diminished — from 263 amputations to 188 amputations per 100,000 patients — between 1996 and 2006, just as the rate of endovascular interventions rose three times and the total number of lower extremity vascular procedures jumped twofold in the same period.
“These are the veins the patient sees; they are unsightly and bulge against the skin. They are sometimes very painful and can be removed under local anesthesia through tiny incisions that don’t even need a stitch,” Dr. Pollina says. “The patient will generally see immediate results in the first several days.”

Although the vast majority of treatments that Suffolk Vascular Associates offers are available on an outpatient basis, the surgical repair of aneurysms still requires a hospital setting for patient safety. This procedure involves accessing the aneurysm; placing a series of clamps on the artery to block blood flow; and then either removing the abnormality entirely, placing a graft into the wall of the artery or inserting a stent. Because Dr. Pollina is able to opt for a stent in most cases rather than resecting the aneurysm, patients typically remain in the hospital overnight.

Following any procedure — whether patients are treated in the Suffolk Vascular Associates office or in the hospital — specially trained nurses contact patients the next day to address any questions and ensure their recovery is progressing as expected. Dr. Pollina and his colleagues also are on call 24 hours a day, seven days a week in the event a patient has anything he or she would like to discuss directly with them. While every patient is different, a typical recovery period is one hour for outpatient venous treatments and several hours for more involved interventions. Patients can relax in the comfortable recovery suites, where they can watch television under the monitoring of skilled nurses.

The Best Tools for the Job

Suffolk Vascular Associates is composed of four board-certified vascular surgeons — Thomas E. Arnold, M.D.; Ahmad F. Bhatti, M.D.; Richard J. Dranitzke, M.D.; and Dr. Robert Pollina — and a staff of certified vascular technologists and nurses specially trained to care for patients with conditions of the vascular system. Patients are also supported through the practice’s collaboration with Long Island Anesthesia Physicians, LLP, which provides expert care in both the outpatient and acute inpatient settings. Each attending anesthesiologist applies the appropriate amount of sedation to allow the patient to easily return to his or her daily routine without experiencing the side effects of major anesthesia.

Suffolk Vascular Associates is also fully equipped with a state-of-the-art angiography suite. The suite was specifically built for vascular surgery purposes, avoiding the cumbersome modifications that are necessary to convert a procedure room from being equipped for one specialty to being equipped for another. The angiography suite is a model of safety and efficiency for the performance of office-based procedures.

“Our suite is a procedure room that rivals the angiography suite that would be present in a hospital operating room,” Dr. Pollina says. “The room has the full instrumentation to perform nearly all vascular interventions that were reserved for the hospital setting in the past.”

A comprehensive vascular practice at the helm of innovation, Suffolk Vascular Associates offers patients individual care based on the foundation of experience.

For more information about Suffolk Vascular Associates or to refer a patient, visit www.suffolkvascular.com.

Reprinted from Long Island MD NEWS