Vascular diseases are conditions that affect the blood vessels—arteries and veins—that carry blood throughout the body. Vascular disease that affects the arteries is most often caused by atherosclerosis, a process resulting from a buildup of fatty deposits (plaque) on the inner lining of the arteries. As the buildup progresses, blood flow can become restricted or the artery may dilate and become aneurysmal.

Narrowing or blockages of arteries can occur in the arteries near the heart (cardiovascular disease), or in arteries farther from the heart, such as in the arms, legs and the brain.

The most common forms of vascular disease are abdominal aortic aneurysms (AAA), carotid artery disease and peripheral arterial disease (PAD)—all serious and life threatening, often occurring “silently” without any symptoms. That’s why early detection and treatment are crucial.

Those with the following risk factors will benefit most from screening:

- Current or past smoker
- Diabetes
- High blood pressure
- High cholesterol
- Personal or family history of vascular or heart disease, aortic aneurysm or stroke
PERIPHERAL ARTERY DISEASE

Most Americans are unaware of the causes and consequences of peripheral artery disease (PAD). However, early detection and proper treatment can prevent the devastating complications of this disease.

ABDOMINAL AORTIC ANEURYSMS

Nearly 200,000 Americans are diagnosed with abdominal aortic aneurysms (AAA) annually, and approximately 15,000 individuals die each year from a ruptured AAA.

The aorta is the largest artery of the body, which, through its multiple branches, delivers oxygen-rich blood to the entire body. An AAA occurs when the wall of the aorta progressively weakens and begins to bulge.

The normal diameter of the abdominal segment of the aorta is 2 cm or 0.8 inches. An AAA can continue to enlarge without causing any symptoms. If it is not diagnosed and is left untreated, it may eventually rupture, causing significant internal bleeding and possibly death. Diagnosis requires an abdominal ultrasound or a CT scan. AAs can be safely treated with early diagnosis. The risk of rupture increases with the size of the aneurysm, and when the diameter exceeds 5.5 cm (2.2 inches), elective repair is required. Smaller size aneurysms can be safely monitored with regular ultrasound examinations.

When repair of the AAA is required, treatment options include placement of an endovascular stent graft or open surgical replacement of the aneurysm. Early detection and elective repair prevent rupture and can save a person’s life.

CAROTID ARTERY DISEASE

Stroke is the third leading cause of death and the leading cause of permanent disability in older adults in the U.S.

The carotid arteries are two main arteries that carry oxygen-rich blood from your heart, up through your neck to your brain. Typically with age, a cholesterol-rich plaque builds up within the carotid arteries, causing them to become narrow and stiffen.

Strokes result either from obstruction of blood flow through the carotid arteries or when pieces of the plaque break off and flow to the brain. If left untreated, carotid artery disease may lead to stroke. Depending on its severity, a stroke can cause temporary or permanent disability and even death. There may be no symptoms during the early stages of carotid artery disease. Transient ischemic attacks or TIAs are mini strokes that cause temporary symptoms and are strong predictors of future and more severe strokes. Carotid artery disease is detected and its severity can be assessed by a duplex ultrasound examination.

Depending on the severity of the disease, treatment options may include medications, carotid stenting or open carotid endarterectomy.

FOR MORE INFORMATION

To refer a patient or schedule an appointment, call the Division of Vascular Surgery at (631) 444-1279.

To learn more about Stony Brook University Medical Center and its many services, or for physician referrals and appointment scheduling, call (631) 444-4900 or visit StonyBrookMedicalCenter.org.