Almost everyone in this country knows about heart disease—the importance of prevention, detection, and treatment and the huge impact it has on people's health. But they know very little about vascular disease outside the heart, says William R. Flinn, M.D., head of vascular surgery and the Maryland Vascular Center at the University of Maryland Medical Center and professor of surgery at the University of Maryland School of Medicine.

That's despite the fact that many vascular diseases can produce stroke, which is the third leading cause of death in the United States. Stroke is also the leading cause of disability in the U.S., and more than $70 billion is spent annually on the care of stroke patients, according to the American Vascular Association (AVA).

An estimated 20 to 30 million Americans are at risk for various vascular diseases, including stroke, peripheral arterial disease (PAD), carotid artery disease and aortic aneurysms. And according to the AVA, vascular disease outside the heart causes almost as much death and disability as heart disease, and more than any cancer.

"These are very compelling health care problems," said Dr. Flinn. "Yet it's clear that most Americans, other than those who suffer from vascular disease, don't know very much about it at all."

Dr. Flinn says this became evident during the first ever free national screening study that he coordinated for the AVA, held at 17 sites throughout the U.S. in May 2002. The study yielded some disturbing results: Thirteen percent of people screened had signs of vascular conditions, including blocked carotid arteries, aortic aneurysms and PAD. Dr. Flinn said most people who were screened didn't know they had a problem and had never been tested for vascular disease.

"In a typical screening program you would expect abnormal findings in 5-to-10 percent of those tested," said Dr. Flinn. "By our usual standards, the people in this group were healthy. But the fact that 13 percent had abnormal numbers underscores the magnitude of undiagnosed vascular disease in the U.S."

### Similarities Between Heart and Vascular Disease

Dr. Flinn says it’s important to understand that vascular disease outside the heart does occur in a variety of different locations -- the carotid arteries in the neck, the aorta, the arteries in the legs and arms and even disease in the veins.

"Most of these problems are very similar to heart disease in the sense that they are atherosclerosis (hardening of the arteries) of the arteries. It just occurs in different arteries than the coronary arteries to the heart," said Dr. Flinn.

It's also important to understand the potential severity of these diseases. "Just like heart disease, each one of those problems has consequences that can be fatal or can be very serious and lead to hospitalization and severe disability long term," stated Dr. Flinn.

### The Most Deadly Types of Vascular Disease

Flinn says that carotid artery disease, PAD and aortic aneurysms are probably the three most serious non-cardiac vascular diseases that afflict Americans and "those are certainly the ones that produce the most potential for death and disability."

Carotid artery disease typically occurs when the carotid arteries, the main blood vessels to the brain, develop a buildup of plaque caused by atherosclerosis, or a hardening of the...
arteries. When the buildup becomes severe, it can cause a stroke. "Carotid disease can produce a stroke, which can be fatal or permanently disabling," said Dr. Flinn. "We want people to understand that if carotid artery disease is detected and treated, we can prevent most strokes."

Aortic aneurysms occur when the wall of the aorta, the main artery in the chest and abdomen, progressively weakens. This causes a dilation of the vessel. If not diagnosed and treated, the aneurysm will grow larger and eventually rupture. According to the AVA, a ruptured abdominal aortic aneurysm (AAA) is the tenth leading cause of death in men over age 55 in this country.

"An aneurysm that ruptures has an 80 percent fatality rate and the vast majority of people with aneurysms are never diagnosed and many are never diagnosed until they experience fatal rupture," said Flinn. "But if the AAA is detected and treated electrolytically the risk is more in the range of 2 to 3 percent, so it really is a fatal disease that can be cured."

PAD is a blockage in the circulation to the arms or legs due to atherosclerosis or other diseases, which may threaten the limbs. PAD can impair circulation to the legs and lead to serious disability or amputation. Between 25 and 30 million people over 70 have PAD. These people are three times as likely to die of heart attacks and strokes as those without the disease.

**Early Detection is Vital**

In most cases, with early detection, vascular disease can be treated effectively. There are several simple screening tests that detect these problems, all of which are non-invasive and painless.

"The beauty of the screenings is that they are very simple. These are simple ultrasound tests that don't produce any risk or discomfort for patients, and can be done in a matter of minutes," said Dr. Flinn. "So we can have not only the accurate identification of these problems but we can even determine the severity in an individual patient."

**Who Should be Screened for Vascular Disease?**

Screening is useful in certain high-risk groups in the elderly population, according to Dr. Flinn. Anyone over the age of 55-60 has a higher risk of atherosclerosis and therefore would have a greater chance of developing vascular disease. Other well recognized risk factors include:

- Diabetes
- High blood pressure
- Smoking
- High blood cholesterol
- Family history of atherosclerotic problems and circulatory problems

"It's quite probable that each one of those populations should be screened at a certain point in time to determine whether they have other forms of vascular disease," said Dr. Flinn. But combinations of these risk factors may occur in many people, so for example, a 20-year-old diabetic wouldn't need to be screened.

**The Maryland Vascular Center**

A full range of noninvasive tests are available at the Maryland Vascular Center's Non Invasive Vascular Laboratory, including tests for:

- PAD
- Aortic Aneurysms
- Cerebrovascular Disease
- Deep Venous Thrombosis (blood clots in the veins that can travel to the lungs)
- Renal Artery Disease (circulatory disorders of the kidney)
- Chronic Venous Diseases (such as varicose veins).

"We probably offer the single most comprehensive array of examinations to evaluate all of the major vascular systems," said Dr. Flinn. "We do a lot of the specialized exams. We can even measure the circulation in people's eyes, kidneys, and transplanted organs."

Over 700 people a month are examined in the lab.

Dr. Flinn says the University of Maryland has strong interest in stroke care since it is a priority for this country. He added that strokes due to carotid disease can be prevented if diagnosed early and medical treatment is undertaken. "The idea is to prevent strokes," Dr. Flinn said. "Part of the national priority has to be to do a better job of detecting these diseases before they create irreversible problems."

**By Michelle Weinstein**

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For patient inquiries, call 1-800-492-5538 or click here to make an appointment.