The vascular system involves the heart and blood vessels. The blood vessels include arteries, which are tubes that transport blood from your heart to the rest of your body, and veins, which return the blood to your heart. This complex system is involved in many diverse functions, but the most important is transporting vital oxygen and nutrients to your tissues and organs.

ARTERIES are thicker and are prone to developing blockages or dilations.

VEINS are thinner and have valves that keep the blood moving back toward the heart. The larger deep veins of the legs can develop clots.

Blood vessels are composed of three layers.

- The inner layer (intima) is lined by specialized cells called endothelial cells. One of the main functions of this lining is to keep the vessels from clotting.
- The middle layer (media) is composed of muscle cells, and allows the vessels to expand and contract.
- The outer layer (adventitia) provides strength so vessels do not burst under pressure.

Why vascular biology matters to you

Diseases of the vascular system can be life-threatening or can severely decrease your quality of life. Vascular biology helps scientists and vascular surgeons and other physicians understand the causes of vascular diseases. With this knowledge, new and better methods to prevent and treat these diseases become possible.

In general, diseases of the blood vessels (particularly the arteries) involve either blockage, usually due to
Vascular biology research can lead to the prevention of the diseases that are the leading causes of death in Western cultures, including heart attack and stroke. This research is very costly to perform but can lead to significant improvement in lifespan and quality of life.

Most medical research is supported by government, the health care industry and various foundations, including the Society for Vascular Surgery Foundation. Contributions from patients are critical to the advancement of vascular biology and all of its benefits.

Donate to the SVS Foundation
The information contained on Vascular.org is not intended, and should not be relied upon, as a substitute for medical advice or treatment. It is very important that individuals with specific medical problems or questions consult with their doctor or other health care professional.