At the time Andrew Taylor Still, MD, DO, formulated the axiom “the rule of the artery is supreme,” arterial vessels were believed to be mere passive conduits for blood flow. Some of the early theories for osteopathic medicine were based on external impingement of blood vessels as the cause of disease. Later, vascular tone was thought to be controlled solely by vascular smooth muscle. A more current dynamic view of the behavior of healthy and diseased arterial vessels focuses on endothelial function. Endothelium is now seen as a regulatory organ that mediates hemostasis, contractility, cellular proliferation, and inflammatory mechanisms in the vessel wall; it has a major role in atherosclerosis.

The field of vascular medicine has emerged in the past three decades, with major developments in the area of cell biology, imaging techniques, preventive strategies, and revascularization procedures. A convergence of basic science, technology, and clinical practice allows the implementation of a perspective that unifies an approach to patient care in which each patient is considered as a complex unit of interrelated systems.

Although vascular medicine is a component of the field of internal medicine, its practice relies on an interdisciplinary approach that includes radiologic and ultrasound imaging techniques, surgical and transcatheter revascularization, cardiovascular medicine, hematology, coagulation disorders, and the management of a wide variety of arterial disorders, including atherosclerosis, aneurysm, and dissection. In addition, disorders of the venous and lymphatic systems, congenital malformations, vascular trauma, and neoplastic diseases may all be included. Vascular medicine is a rapidly growing field. The Society for Vascular Medicine and Biology has recently been formed, and its research is now published in international peer-reviewed journals. Osteopathic physicians play a major role in the practice of vascular medicine in the United States and are leaders in clinical practice, research, and education at major medical institutions.

This two-part supplement of JAOA reviews some of the highlights of vascular medicine, with special emphasis on clinical pathways in patient care. It focuses on those subjects that are most likely to fall within the everyday practice of primary care physicians, internists, neurologists, and vascular surgeons.

The supplement begins with an overview of vascular medicine by Michael G. Gironta, DO, and Cheryl R. Rosenfeld, DO. They define the parameters of vascular medicine and illustrate some of the risk factors of vascular disease. They have extended conventional wisdom to show the extent to which this field incorporates the basic osteopathic principles of patient care.

Michael R. Jaff, DO, from the Washington Hospital Center, next presents a comprehensive and accessible review of the complex and often frustrating topic of hypertension and renal vascular disease. He develops a stepwise approach to assess the patient with hypertension that is difficult to treat and provides practical insights in patient selection for the evaluation of secondary causes of hypertension.

Perhaps the most common manifestation of peripheral arterial disease is the patient with lower extremity claudication. Lucy LaPerna, DO, RVT, from the Cleveland Clinic describes the methods of diagnosis and treatment. She emphasizes the common sense clinical approaches and sets a tone of conservatism, which has defined good care for several decades. This is followed by a critique of current interventional treatments from the same institution. In his article, Bruce H. Gray, DO, illuminates the state-of-the-art technical advances and describes their appropriate applications. This article is accompanied by a photo essay that allows us to visualize clearly the remarkable advances that can be achieved through endovascular intervention.