Change of elastic properties of arterial wall has an important meaning for pathogenesis of lesions of all organs in arterial hypertension (AH). This article reviews all parameters characterizing vascular elasticity, approaches to their measurement and prognostic value. These parameters include ankle-brachial index, pulse pressure, augmentation index, pulse wave velocity in aorta, and cardio-ankle vascular index. Moreover, this article considers information about the use of mentioned parameters for evaluation of cardiovascular risk and control of therapy in different categories of patients.

**Keywords:** Arterial stiffness, ankle-brachial index, pulse pressure, augmentation index, pulse wave velocity in aorta, cardio-ankle vascular index.