attendant morbidity and mortality, hypertension remains untreated or undertreated in the majority of affected individuals in all countries, including those with the most advanced systems of medical care. Currently, fewer than one in two Americans with hypertension have their BP treated and controlled to below 140/90 mm Hg. For this reason, hypertension remains one of the world's great public health problems. The asymptomatic nature of the condition impedes early detection, which requires regular BP measurement. Because most cases of hypertension cannot be cured, BP control requires lifelong treatment with prescription medications, which can be costly and may cause more symptoms than the underlying disease process. Effective hypertension management requires continuity of care by a regular and knowledgeable medical provider as well as sustained active participation by an educated patient. This section reviews the most important principles in the early detection and effective treatment of hypertension.

Initial Evaluation for Hypertension

The initial evaluation for hypertension needs to accomplish three goals: staging of BP, assessing the patient's overall cardiovascular risk, and detecting clues of secondary hypertension. The initial clinical data needed to accomplish these goals are obtained through a thorough history and physical examination, routine blood tests, a spot (preferably first morning) urine specimen, and a resting 12-lead ECG. Home BP monitoring is indicated in most patients to confirm the diagnosis of hypertension and to exclude the so-called white coat syndrome. In some cases, 24-hour ambulatory BP monitoring and an echocardiogram provide helpful additional data about the time-integral burden of BP on the cardiovascular system.

Goal 1: Accurate Assessment of Blood Pressure

Across populations, the risks of heart disease and stroke increase continuously and logarithmically with increasing systolic and diastolic BP levels of 115/75 mm Hg or higher (Fig. 12-7). Therefore, the dichotomous separation of *normal* from *high* BP is artificial. BP is currently staged as normal, prehypertension, or hypertension based on the average of two or more readings taken at two or more office visits. When a patient's average systolic and diastolic pressures fall into different stages, the higher stage applies (Table 12-4).

Prehypertension is defined as BP levelss in the range of 120 to 139 mm Hg systolic and 80 to 89 mm Hg diastolic. Prehypertensive individuals are twice as likely to progress to hypertension as are those with lower values.

BP normally varies dramatically throughout a 24-hour period. To minimize variability in readings, BP should be measured at least twice after 5 minutes of rest with the patient seated, the back supported, and the arm bare and at heart level. The most common mistake in measuring BP is using a standard-issue cuff that is too small for a large arm, producing spuriously elevated readings. Most overweight adults require a large adult cuff. Tobacco and caffeine should be avoided for at least 30 minutes. To avoid underestimation of systolic pressure in older adults who may have an *auscultatory gap* as a result of arteriosclerosis, radial artery palpation should be performed first to estimate systolic pressure. The cuff should be inflated to a value 20 mm Hg higher than the

TABLE 12-4 STAGING OF OFFICE BLOOD PRESSURE*

BLOOD PRESSURE STAGE	SYSTOLIC BLOOD PRESSURE (MM HG)	DIASTOLIC BLOOD PRESSURE (MM HG)
Normal	<120	<80
Prehypertension	120-139	80-89
Stage 1 hypertension	140-159	90-99
Stage 2 hypertension	≥160	≥100

From Chobanian AV, Bakris GL, Black HR, et al: The seventh report of the Joint National Committee on the Prevention, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report, JAMA 289:2560–2572, 2003.

*Calculation of seated blood pressure is based on the mean of two or more readings on two separate office visits.

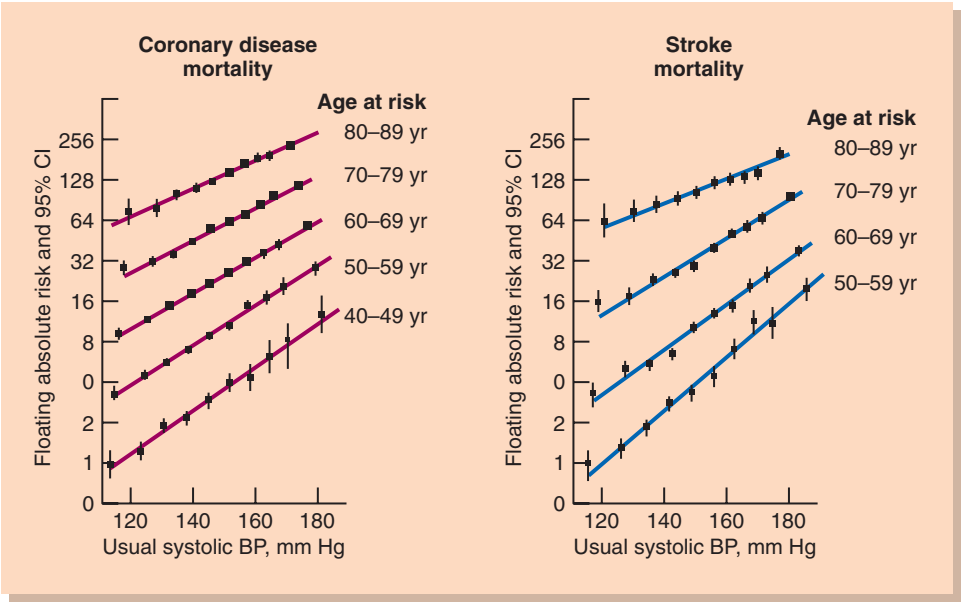

FIGURE 12-7 Floating absolute risk of coronary artery disease and stroke mortality by usual systolic blood pressure (BP) levels. CI, Confidence interval. (From Lewington S, Clarke R, Qizilbash N, et al: Age-specific relevance of usual blood pressure to vascular mortality: a meta-analysis of individual data for one million adults in 61 prospective studies, Lancet 360:1903–1913, 2002.)