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Hypertension: New Guidelines from the International Society of Hypertension

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Key Points for Practice

- Use an average threshold of 140/90 mm Hg for office diagnosis of hypertension, but 135/85 mm Hg for home and 130/80 mm Hg for 24-hour ambulatory monitoring.
- Initial assessment in a patient who is hypertensive should evaluate for cardiovascular risk and any hypertension-mediated organ damage.
- Consider lifestyle interventions for three to six months before medication in patients with grade 1 hypertension and no comorbidities.
- After starting medication, target blood pressure is less than 140/90 mm Hg within three months, and after three months reduce target to less than 130/80 mm Hg in patients younger than 65 years.

From the *AFP* Editors

Hypertension is one of the leading causes of death globally each year, accounting for up to 30% of myocardial infarctions. Although the prevalence of hypertension is increasing, many patients are underdiagnosed and undertreated. The International Society of Hypertension (ISH) has published summary guidelines based on major international guidelines published between 2017 and 2020 on the control of hypertension. These summary guidelines include essential recommendations and suggestions for optimal care.

Diagnosis

Because blood pressure (BP) readings vary by measurement technique, diagnostic criteria are specific to the technique ([Table 1](#)). In health care settings that include the physician's office, hypertension is diagnosed when BP is 140/90 mm Hg or greater, ideally using an electronic device and following standard protocols for measurement, including repeat measurements.

TABLE 1.

International Society of Hypertension Diagnostic Blood Pressure Thresholds

<i>LOCATION</i>	<i>THRESHOLD (MM HG)</i>
Office	140/90
Home	135/85
24-hour ambulatory monitoring	
24-hour average	130/80
Daytime average	135/85
Nighttime average	120/70

Adapted from Unger T, Borghi C, Charchar F, et al. 2020 International Society of Hypertension global hypertension practice guidelines. J Hypertens. 2020;38(6):984.

The ISH recommends categorizing grade 1 hypertension for BP levels less than 160/100 mm Hg and grade 2 hypertension for any higher BP levels. Hypertension should only be diagnosed from a single BP reading if the measurement is 180/110 mm Hg or higher with evidence of cardiovascular disease requiring immediate treatment. Otherwise, the patient should be reassessed every one to four weeks to confirm BP elevations.

Although outpatient office measurements continue to be the most common means of diagnosing hypertension, home and ambulatory readings are more consistent and better reflect hypertension-mediated organ damage risk. Out-of-office readings can differentiate white coat hypertension, with elevated office measurements, and masked hypertension, where measurements are lower in the office.

When BP is measured at home, hypertension is diagnosed if readings are consistently 135/85 mm Hg or greater. With 24-hour ambulatory monitoring, hypertension is diagnosed based on one of three criteria: 24-hour average BP of 130/80 mm Hg or greater, daytime average BP of 135/85 mm Hg or greater, or nighttime average BP of 120/70 mm Hg or greater.

Assessment



After diagnosing hypertension, further assessment is recommended to identify cardiovascular risk factors and signs of hypertension-mediated organ damage. The cardiovascular risk factors of diabetes mellitus, dyslipidemia, obesity, or nicotine use affect one-half of people with hypertension. In addition to history and physical examination, a cost-effective assessment includes serum chemistry levels, fasting glucose level, fasting lipid panel, urinalysis, and electrocardiography. Cardiovascular risk should be estimated using a calculator such as the Framingham Risk Score

(<https://www.mdcalc.com/framingham-risk-score-hard-coronary-heart-disease>

(<https://www.mdcalc.com/framingham-risk-score-hard-coronary-heart-disease>)). Other studies, such as echocardiography, renal artery evaluation, or brain imaging, are not routinely recommended.

Treatment

Lifestyle modifications are essential for managing hypertension, and optimal treatment starts with diet and activity. Dietary changes include salt reduction, moderation of alcohol consumption, and a diet high in vegetables and fruit that is low in added sugars and saturated fats (e.g., DASH diet). Activity recommendations include aerobic and resistance exercises for at least 30 minutes or more at least five days per week. Other important modifications include smoking cessation and stress reduction ([Table 2](#)).

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This series is coordinated by Michael J. Arnold, MD, contributing editor.

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