

PREHYPERTENSION

Mahmoud Hassanein, FESC, HFAF
Professor of Cardiology
Alexandria University

Definition

- A systolic pressure of 120 to 139 mm Hg or a diastolic pressure of between 80 and 89 mm Hg.
- Prehypertension is a precursor to chronic high blood pressure.
- Those with BP between 130/80 mm Hg and 139/89 mm Hg are *twice as likely* to progress to hypertension as those with lower BP values.

Table 1. Classification and management of blood pressure for adults*

BP CLASSIFICATION	SBP ^a mmHg	DBP ^a mmHg	LIFESTYLE MODIFICATION	INITIAL DRUG THERAPY	
				WITHOUT COMPELLING INDICATION	WITH COMPELLING INDICATIONS (SEE TABLE 6)
NORMAL	<120	and <80	Encourage		
PREHYPERTENSION	120-139	or 80-89	Yes	No antihypertensive drug indicated.	Drug(s) for compelling indications. ²
STAGE 1 HYPERTENSION	140-159	or 90-99	Yes	Thiazide-type diuretics for most. May consider ACEI, ARB, BB, CCB, or combination.	Drug(s) for the compelling indications. ² Other antihypertensive drugs (diuretics, ACEI, ARB, BB, CCB) as needed.
STAGE 2 HYPERTENSION	≥160	or ≥100	Yes	Two-drug combination for most ¹ (usually thiazide-type diuretic and ACEI or ARB or BB or CCB).	

DBP, diastolic blood pressure; SBP, systolic blood pressure.

Drug abbreviations: ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; BB, beta-blocker; CCB, calcium channel blocker.

Definitions and Classification of Office Blood Pressure Levels (mmHg)

Category	Systolic	and/or	Diastolic
Optimal	<120	and	<80
Normal	120 - 129	and/or	80 - 84
High normal	130 - 139	and/or	85 - 89
Grade 1 hypertension	140 - 159	and/or	90 - 99
Grade 2 hypertension	160 - 179	and/or	100 - 109
Grade 3 hypertension	≥180	and/or	≥110
Isolated systolic hypertension	≥140	and	<90

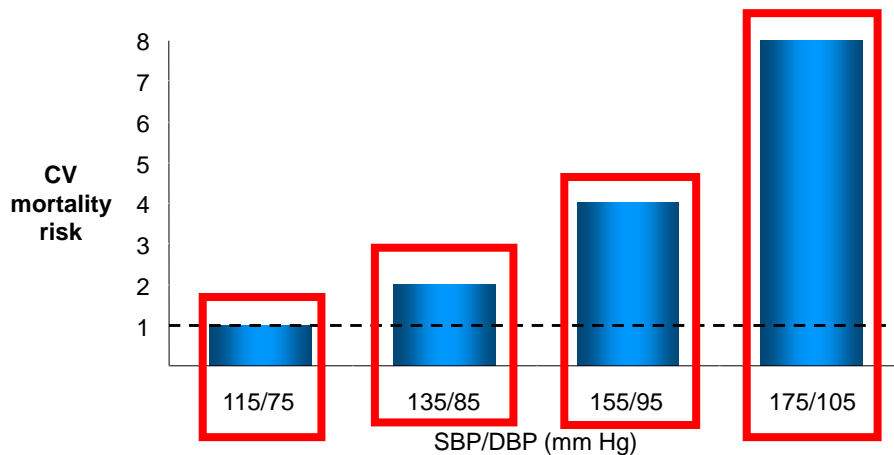
The BP category is defined by the highest level of BP, whether systolic or diastolic.

Isolated systolic hypertension should be graded 1, 2, or 3 according to systolic BP values in the ranges indicated.

Office BP is the average of at least 2 BP measurements (with a validated device), spaced 1-2 min apart, after the patient has been sitting for 3-5 min, on at least 2 visits.

- The previous designation of "normal" BP was misleading, because for persons aged 40 to 70, each increment of 20/10 mm Hg doubles the risk of cardiovascular disease across the entire BP range from 115/75 to 185/115 mm Hg.

CV Mortality Risk Doubles with each 20/10 mm Hg BP Increment*

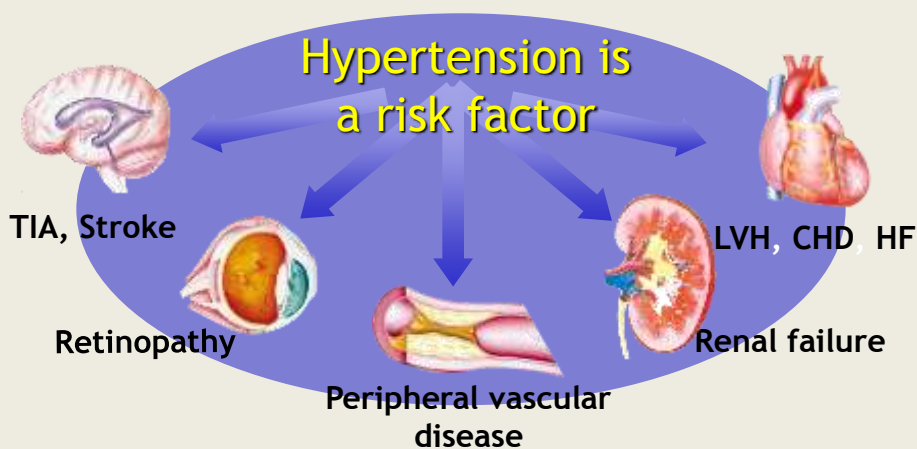


*Individuals aged 40-70 years, starting at BP 115/75 mm Hg.
CV, cardiovascular; SBP, systolic blood pressure; DBP, diastolic BP
Lewington S, et al. *Lancet*. 2002; 60:1903-1913.
JNC 7. *JAMA*. 2003;289:2560-2572.

- The classification of prehypertension introduced in JNC 7 acknowledges the relationship between elevated BP and cardiovascular disease and signals the need for further awareness and action on the part of both health care professionals and the public to prevent hypertension



Hypertension as a risk factor



TIA = transient ischemic attack; LVH = left ventricular hypertrophy; CHD = coronary heart disease; HF = heart failure.

Cushman WC. J Clin Hypertens. 2003;5(Suppl):14-22.

Therapeutic strategies

- The recommended management strategies include lifestyle modification for prehypertensive persons who do not have other major compelling indications for drug therapy (evidence of target organ damage or diabetes)



2017 ACC/AHA/AAPA/ABC/ACPM/AGS/ APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults

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Definition of High BP

COR	LOE	Recommendation for Definition of High BP
I	B-NR	BP should be categorized as normal, elevated, or stage 1 or 2 hypertension to prevent and treat high BP.



Categories of BP in Adults*

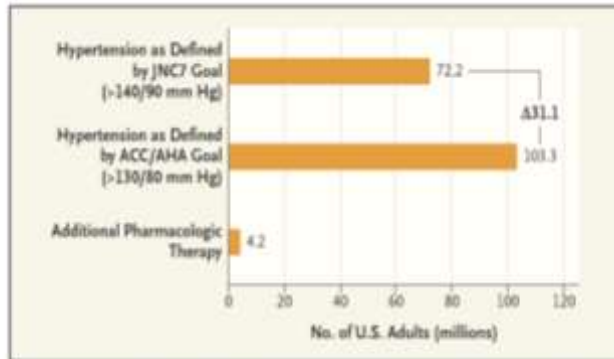
BP Category	SBP		DBP
Normal	<120 mm Hg	and	<80 mm Hg
Elevated	120–129 mm Hg	and	<80 mm Hg
Hypertension			
Stage 1	130–139 mm Hg	or	80–89 mm Hg
Stage 2	≥140 mm Hg	or	≥90 mm Hg

*Individuals with SBP and DBP in 2 categories should be designated to the higher BP category.
BP indicates blood pressure (based on an average of ≥2 careful readings obtained on ≥2 occasions, as detailed in DBP, diastolic blood pressure; and SBP systolic blood pressure).



- What is now called *stage 1 hypertension* was previously labeled “*prehypertension*”— a term meant to alert patients and to prompt physicians to provide lifestyle education to help delay development of hypertension.

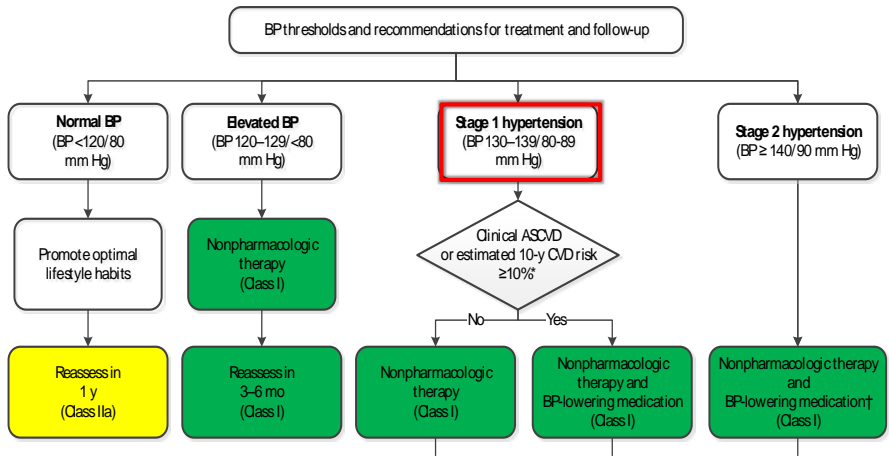
- By reclassifying people formerly considered to have prehypertension as having hypertension, the guideline creates a new level of disease affecting people previously deemed healthy
- Lifestyle modification is still the initial treatment recommended for people with stage 1 hypertension and 10-year cardiovascular risk below 10%



U.S. Adults with Hypertension as Defined by the JNC7 and ACC/AHA Guidelines and Effect on Use of Pharmacologic Therapy.

Data are from Murtner et al.¹

Blood Pressure (BP) Thresholds and Recommendations for Treatment and Follow-Up (continued on next slide) |



Follow-Up After Initial BP Evaluation

COR	LOE	Recommendations for Follow-Up After Initial BP Elevation
I	B-R	Adults with an elevated BP or stage 1 hypertension who have an estimated 10-year ASCVD risk less than 10% should be managed with nonpharmacological therapy and have a repeat BP evaluation within 3 to 6 months.
I	B-R	Adults with stage 1 hypertension who have an estimated 10-year ASCVD risk of 10% or higher should be managed initially with a combination of nonpharmacological and antihypertensive drug therapy and have a repeat BP evaluation in 1 month.
I	B-R	Adults with stage 2 hypertension should be evaluated by or referred to a primary care provider within 1 month of the initial diagnosis, have a combination of nonpharmacological and antihypertensive drug therapy (with 2 agents of different classes) initiated, and have a repeat BP evaluation in 1 month.



BP Goal for Patients With Hypertension

COR	LOE	Recommendations for BP Goal for Patients With Hypertension
I	SBP: B-R ^{SR}	For adults with confirmed hypertension and known CVD or 10-year ASCVD event risk of 10% or higher a BP target of less than 130/80 mm Hg is recommended.
	DBP: C-EO	
IIb	SBP: B-NR	For adults with confirmed hypertension, without additional markers of increased CVD risk, a BP target of less than 130/80 mm Hg may be reasonable.
	DBP: C-EO	

SR indicates systematic review.



Choice of Initial Medication

COR	LOE	Recommendation for Choice of Initial Medication
I	A ^{SR}	For initiation of antihypertensive drug therapy, first-line agents include thiazide diuretics, CCBs, and ACE inhibitors or ARBs.

SR indicates systematic review. |



Nonpharmacological Interventions

COR	LOE	Recommendations for Nonpharmacological Interventions
I	A	<u>Weight loss</u> is recommended to reduce BP in adults with elevated BP or hypertension who are overweight or obese.
I	A	A <u>heart-healthy diet</u> , such as the DASH (Dietary Approaches to Stop Hypertension) diet, that facilitates achieving a desirable weight is recommended for adults with elevated BP or hypertension.
I	A	<u>Sodium reduction</u> is recommended for adults with elevated BP or hypertension.
I	A	<u>Potassium supplementation</u> , preferably in dietary modification, is recommended for adults with elevated BP or hypertension, unless contraindicated by the presence of CKD or use of drugs that reduce potassium excretion.



Nonpharmacological Interventions (cont.)

COR	LOE	Recommendations for Nonpharmacological Interventions
I	A	<u>Increased physical activity</u> with a structured exercise program is recommended for adults with elevated BP or hypertension.
I	A	Adult men and women with elevated BP or hypertension who currently <u>consume alcohol</u> should be advised to drink no more than 2 and 1 standard drinks* per day, respectively.

*In the United States, 1 "standard" drink contains roughly 14 g of pure alcohol, which is typically found in 12 oz of regular beer (usually about 5% alcohol), 5 oz of wine (usually about 12% alcohol), and 1.5 oz of distilled spirits (usually about 40% alcohol).



THANK YOU

