Hypertension – JNC 8 (2014)

Renewed:
February 2018

Comparison of Seventh Joint National Committee (JNC 7) vs. Eighth Joint National Committee (JNC 8) Hypertension Guidelines

	JNC 7	JNC 8 (2014 Hypertension Guideline)
Methodology	Nonsystematic literature review by expert committee including range of study designs Recommendations based on consensus	Critical questions and review criteria defined by expert panel with input from methodology team Initial systematic review by methodologists restricted to randomized controlled trial (RCT) evidence Subsequent review of RCT evidence and recommendations by the panel according to standardized protocol
Definitions	Defined hypertension (HTN) and pre-HTN	Definitions not addressed, but defined thresholds for pharmacological treatment
	Normal: Systolic Blood Pressure (SBP) <120mmHg and Diastolic Blood Pressure (DBP) <80 mmHg **Pre-HTN: SBP 120-139; DBP 80-89** **Stage 1 HTN: SBP 140-159; DBP 90-99** **Stage 2 HTN: SBP ≥160; DBP ≥100**	**(See Treatment Goals below)**
Treatment Goals	Separate treatment goals for "uncomplicated" HTN and for subsets with comorbid conditions: diabetes and chronic kidney disease (CKD)	Similar treatment goals for all hypertensive populations except when evidence supports different goals for a particular subpopulation
	HTN: <140/90 mmHg **HTN + diabetes or renal disease: <130/80 mmHg**	Recommendation 1: **General population ≥60 years: initiate pharmacological treatment to lower blood pressure (BP) at SBP ≥150 or DBP ≥90 and treat to a goal SBP <150 and goal DBP <90** (Strong Recommendation – Grade A) Corollary Recommendation: **General population ≥60 years, if pharmacological treatment for high BP results in lower achieved SBP (eg. <140) and treatment is well tolerated and without adverse effects on health or quality of life (QOL), treatment does not need to be adjusted** (Expert Opinion – Grade E)

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<td>Recommendation 2:
General population <60 years, initiate pharmacological treatment to lower BP at DBP ≥90 and treat to goal DBP <90 (for ages 30-59 years, Strong Recommendation – Grade A; for ages 18-29 years, Expert Opinion – Grade E)

Recommendation 3:
General population <60 years, initiate pharmacological treatment to lower BP at SBP ≥140 and treat to goal SBP <140 (Expert Opinion – Grade E)

Recommendation 4:
Population aged ≥18 years with CKD, initiate pharmacological treatment to lower BP at SBP ≥140 or DBP ≥90 and treat to goal SBP <140 and DBP <90 (Expert Opinion – Grade E)

Recommendation 5:
Population aged ≥18 years with diabetes, initiate pharmacological treatment to lower BP at SBP ≥140 or DBP ≥90 and treat to goal SBP <140 and DBP <90 (Expert Opinion – Grade E)</td>
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<tr>
<td>Lifestyle Modifications</td>
<td>Recommended lifestyle modifications based on literature review and expert opinion</td>
<td>Lifestyle modifications recommended by endorsing the evidence-based recommendations of the Lifestyle Work Group</td>
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Table 5. Lifestyle modifications to manage hypertension*†
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<tr><th>Modification</th><th>Recommendation</th></tr>
<tr><td>Weight reduction</td><td>Maintain normal body weight (body mass index 18.5–24.9 kg/m^2).</td></tr>
<tr><td>Adopt DASH eating plan</td><td>Consume a diet rich in fruits, vegetables, and lowfat dairy products with a reduced content of saturated and total fat.</td></tr>
<tr><td>Dietary sodium reduction</td><td>Reduce dietary sodium intake to no more than 100 mmol per day (2.4 g sodium or 6 g sodium chloride).</td></tr>
<tr><td>Physical activity</td><td>Engage in regular aerobic physical activity such as brisk walking (at least 30 min per day, most days of the week).</td></tr>
<tr><td>Moderation of alcohol consumption</td><td>Limit consumption to no more than 2 drinks (1 oz or 30 mL ethanol; e.g., 24 oz beer, 10 oz wine, or 3 oz 80-proof whiskey) per day in most men and to no more than 1 drink per day in women and lighter weight persons.</td></tr>
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<table>
<tr><th>Modifications</th><th>Recommendations</th></tr>
<tr><td>Adopt Dash eating plan</td><td>Diet emphasizes intake of veggies, fruits, and whole grains; includes low-fat dairy products, poultry, fish, legumes, non-tropical vegetables, oils and nuts; limits intake of sweets, sugar-sweetened beverages and red meat</td></tr>
<tr><td>Dietary sodium reduction</td><td>Lower sodium(Na) intake. Consume no more than 2,400 mg Na/day; further reduction of sodium intake to 1,500 mg/day is desirable since it is associated with even greater reduction in BP. Reduce sodium intake by at least 1,000 mg/day to lower BP, even if the desired daily sodium intake is not yet achieved.</td></tr>
<tr><td>DASH + dietary sodium reduction</td><td>Combine DASH dietary pattern with lower sodium intake.</td></tr>
<tr><td>Physical Activity</td><td>Advise adults to engage in aerobic physical activity to lower BP: 3-4 sessions/week, lasting on average 40 min per session involving moderate-to-vigorous intensity physical activity.</td></tr>
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Drug Therapy	Recommended 5 classes to be considered as initial therapy but recommended thiazide-type diuretics as initial therapy for most patients without compelling indication for another class. Specified particular anti-HTN med classes for patients with compelling indications: diabetes, CKD, heart failure, myocardial infarction (MI), stroke, high cardiovascular disease (CVD) risk Included comprehensive table of oral anti-HTN drugs including names and usual dose ranges	Recommended selection among 4 specific medication classes (ACEI, ARB, CCB, diuretics) and doses based on RCT evidence. Recommended specific medication classes based on evidence review for racial, CKD, and diabetic subgroups. Panel created a table of drugs and doses used in outcome trials
	Stage 1 HTN, w/o compelling indication: Thiazide-type diuretics for most. May consider ACEI, ARB, BB, CCB or combination **Stage 2 HTN, w/o compelling indication**: Two-drug combo for most (usually thiazide-type diuretic and ACEI or ARB or BB or CCB) **Compelling indications recommended drug classes:** **HF**: diuretic, BB, ACEI, ARB, AA **Post MI**: BB, ACEI, AA **High coronary disease risk**: diuretic, BB, ACEI, CCB **Diabetes**: diuretic, BB, ACEI, ARB, CCB **CKD**: ACEI, ARB **Recurrent stroke protection**: diuretic, ACEI	Recommendation 6: **General nonblack population, including those with diabetes, initial anti-HTN management should include a thiazide-type diuretic, CCB, ACEI or ARB** (Moderate Recommendation – Grade B) Recommendation 7: **General black population, including those with diabetes, initial anti-HTN management should include a thiazide-type diuretic or CCB** (General Black Population: Moderate Recommendation – Grade B; Black Patients with Diabetes: Weak Recommendation – Grade C) Recommendation 8: **Population aged ≥18years with CKD**, **initial (or add-on) anti-HTN treatment should include an ACEI or ARB to improve kidney outcomes. Applies to all CKD patients with HTN, regardless of race or diabetes status** (Moderate Recommendation – Grade B) Recommendation 9: **The main objective of HTN treatment is to attain and maintain goal BP**. If goal BP not reached within a month of treatment, increase the dose of initial drug or add a second drug from one of the classes in recommendation 6… If goal BP cannot be reached with 2 drugs, add and titrate a third drug from the list provided. Do not use an ACEI and an ARB together in the same patient. If goal BP cannot be reached with 3 drugs, hypertensive drugs from other classes can be used. (Expert Opinion – Grade E)
Scope of Topics	Addressed **multiple issues** (BP measurement methods, patient evaluation components, secondary HTN, adherence to regimens, resistant HTN, and HTN in special populations) based on literature review and expert opinion	Evidence review of RCTs addressed a **limited number of questions**, those judged by panel to be highest priority

Review Process	**Reviewed by National High Blood Pressure Education Program Coordinating Committee**, a coalition of 39 major professional, public and voluntary organizations and 7 federal agencies	Reviewed by experts including those affiliated with professional and public organizations and federal agencies; **no official sponsorship by any organization should be inferred**.

Appendix

Figure 1. Algorithm for treatment of HTN from JNC 7

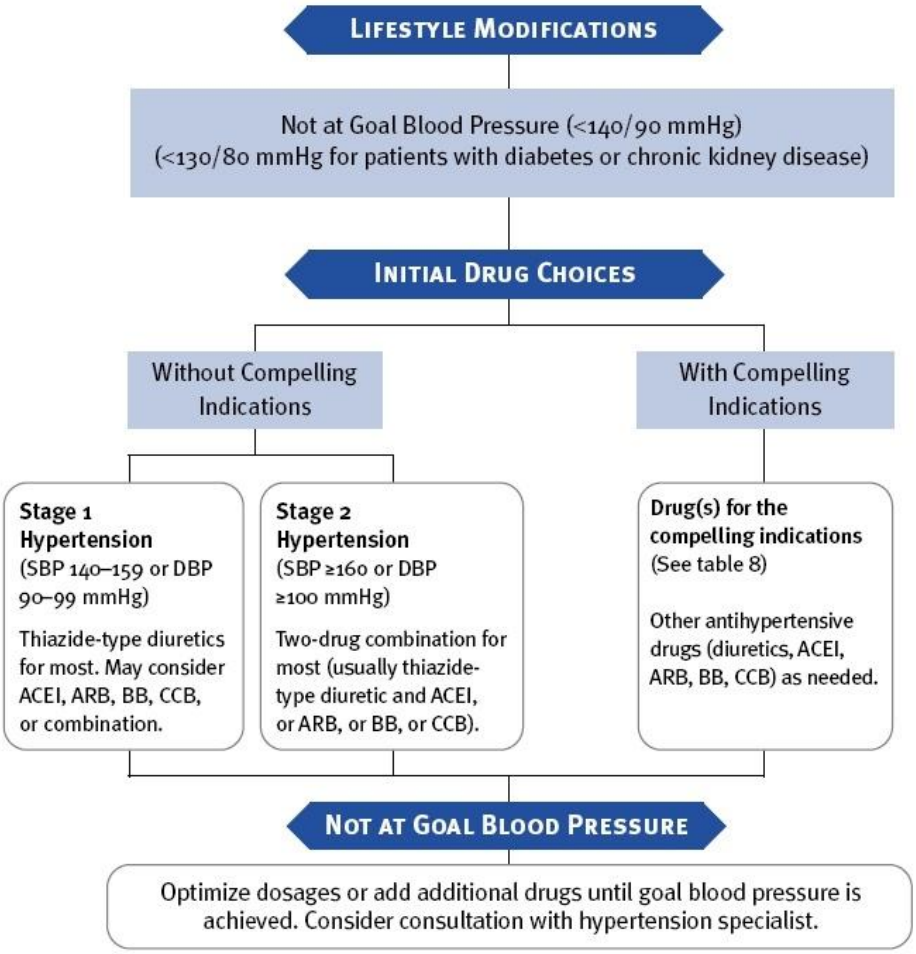

Figure 2. JNC 8 (2014 HTN Guideline) Management Algorithm