

Hypertension Management Guideline

For patients 18-85 yrs old with BP \geq 140/90 mmHg

For patients with systolic BP 120-139/80-89 mmHg focus on lifestyle modification.

1. Ensure proper BP measurement technique used and repeat BP measurement within ~2 weeks.
2. Check CBC/chemistry/TSH/lipids/UA/ECG/uric acid
3. Set BP target as $<$ 140/90 mmHg
4. Encourage lifestyle modifications

If BP \geq 140/90 mmHg at repeat visit in ~2 weeks

1. Diagnosis of HTN is confirmed
2. Initiate ACE-I/ARB*, thiazide, or CCB alone, or in combination (see reverse for patient-specific guidance). [1]
3. Consider order and check appropriate follow-up labs within 2 weeks.

If White Coat/Masked HTN suspected, consider further assessment before treatment is initiated.

4-week follow up - is BP at target $<$ 140/90 mmHg?

YES

NO

- Reinforce lifestyle modification+medication adherence; assess for barriers to treatment adherence.
- Titrate medications and/or add additional agent from different class.
- Recheck labs as indicated

Continue with Current Management

4-week follow up - is BP at target $<$ 140/90 mmHg?

YES

NO

- Reinforce lifestyle modification+medication adherence; assess for barriers to treatment adherence.
- Titrate medications to max doses and/or add additional agent from different class.
- If not controlled on 3 medications at max doses, consider secondary HTN and refer to HTN specialist.
 - Check with patient to ensure he/she sees specialist.
 - Close referral loop with specialist

Note to Care Team

- Provide educational materials to all patients.
- Ensure proper BP measurement technique.
- Recommend BP log and home based BP monitoring.
- Assess for barriers to treatment adherence.

Important Considerations

- Avoid with pregnancy potential
- ACE-I/ARB may have smaller BP effect in Black patients. [5,6]

Hypertension Management

Lifestyle Modification

■ Weight Reduction

If overweight or obese, weight loss of 5-10% can improve BP.
Approx. Systolic BP Reduction: 3-4 mmHg/5kg [2,3]

■ DASH Eating Plan

Diet rich in fruits, vegetables, and low-fat dairy products with reduced saturated and total fat
Approx. Systolic BP Reduction: 8-14 mmHg [4]

■ Dietary Sodium Reduction

Reduce dietary sodium intake to less than 2,300mg of sodium, or at least a 1g reduction.
Approx. Systolic BP Reduction: 2-8 mmHg [4]

■ Dietary Potassium

3,500 - 5,000mg/d, preferably via potassium-rich diet; caution with ACE-I/ARB initiation.
Approx. Systolic BP Reduction: 2-5 mmHg [1]

■ Physical Activity

At least 30 minutes of moderate physical activity (e.g., brisk walk) at least five days a week.
Approx. Systolic BP Reduction: 4-9 mmHg [4]

■ Moderation of Alcohol Consumption

Limit alcohol consumption to:
men \leq 2 drinks/day, women \leq 1 drink/day.
Approx. Systolic BP Reduction: 2-4 mmHg [4]

■ Smoking cessation

■ Blood glucose & lipid control

References

1. 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: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *J Am Coll Cardiol* 2018;71:e127-e248.
2. Neter JE, Stam BE, Kok FJ, Grobbee DE, Geleijnse JM. Influence of Weight Reduction on Blood Pressure: A MetaAnalysis of Randomized Controlled Trials. *Hypertension*. 2003; 42: 878-884.
3. Executive summary: Guidelines (2013) for the management of overweight and obesity in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Obesity Society, published by the Obesity Society and American College of Cardiology/American Heart Association Task Force on Practice Guidelines. Based on a systematic review from the Obesity Expert Panel, 2013. *Obesity* (Silver Spring). 2014 July;22 Supp 2:S5-39. doi: 10.1002/oby.20821.
4. U.S. Department of Health and Human Services. National Institute of Health, National Heart, Lung, and Blood Institute. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. NIH Publication No. 04-5230. 2004.
5. ALLHAT Officers and Coordinators for the ALLHAT Collaborative Research Group. The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial. Major outcomes in high-risk hypertensive patients randomized to angiotensin-converting enzyme inhibitor or calcium channel blocker vs diuretic: The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *JAMA*. 2002; 288(23):2981-07.
6. Ogedegbe G, Shah NR, Phillips C, Goldfeld K, Roy J, Guo Y, Gyamfi J, Torgersen C, Capponi L, Bangalore S. Comparative Effectiveness of Angiotensin-Converting Enzyme Inhibitor-Based Treatment on Cardiovascular Outcomes in Hypertensive Blacks Versus Whites. *J Am Coll Cardiol*. 2015; 66(11):1224-33.



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