SUMMARY

CCHCS’ BLOOD PRESSURE (BP) GOALS*

- < 140/90 mmHg for most patients < 60 years old
- < 140-150/90 mmHg and shared decision-making for most patients > 60 years old
- < 130/80* mmHg for patients with atherosclerotic cardiovascular disease (ASCVD), chronic kidney disease (CKD), and diabetes (DM) patients at high risk for ASCVD
- < 140/90 for DM patients with no or low ASCVD risk

*Note: Significant controversy still exists in the literature regarding target BP goals. CCHCS BP treatment thresholds are anchored on JNC8, however research supports a lower BP target for patients with ASCVD, chronic kidney disease, and ASCVD Risk > 10%.

ALERTS

- Systolic BP > 180
- Diastolic BP > 120
- Evidence of target organ damage (TOD)
- Hypertension (HTN) with chest pain or symptoms of acute coronary syndrome
- Signs of secondary HTN

DIAGNOSTIC CRITERIA/EVALUATION

The definition of HTN varies depending on which guidelines are reviewed. Normal BP is accepted as < 120/80 mmHg. The Joint National Committee (JNC) released HTN guidelines, most recently JNC 8 in 2014. No further updates are planned. These were endorsed by the American College of Physicians (ACP) and American Academy of Family Practitioners (AAFP) in 2018.

- The American College of Cardiology (ACC) and the American Heart Association (AHA) released guidelines in 2017 which generated some controversy because of their lowering of the BP threshold needed to identify a person as having HTN (120-129 systolic).
- The European Guidelines released in 2018 were closely aligned with JNC 8 recommendations.

DIAGNOSTIC CRITERIA AND TREATMENT RECS. FOR HYPERTENSION

1. JNC 8-2014

   - DEFINITION
     - Pre HTN: 120-139/80-89
   - TREATMENT RECS.*
     - Lifestyle
   - DEFINITION
     - Stage 1: 140-159/90-99
   - TREATMENT RECS.*
     - Lifestyle and Medications to keep BP < 140/90
   - DEFINITION
     - Stage 2: ≥ 160/≥ 100
   - TREATMENT RECS*
     - Lifestyle and Medications to keep BP < 140/90

2. ACC/AHA-2017

   - DEFINITION
     - Elevated: 120-129/< 80
   - TREATMENT RECS.*
     - Lifestyle
   - DEFINITION
     - Stage 1: 130-139/80-89
   - TREATMENT RECS.*
     - Lifestyle for all. Medications to keep BP < 130/80 if ASCVD, ASCVD risk, DM or CKD
   - DEFINITION
     - Stage 2: ≥ 140/90
• **TREATMENT RECS.***
  - Lifestyle and Medications to keep BP < 140/90

3. **EUROPEAN 2018**

• **DEFINITION**
  - High NL: 130-139/85-89

• **TREATMENT RECS.***
  - **Lifestyle**
  - **DEFINITION**
    - Grade 1: 140-159/90-99

• **TREATMENT RECS.***
  - **Lifestyle for all. Medications to keep BP < 130/80 if ASCVD, ASCVD risk, DM or CKD**
  - **DEFINITION**
    - Grade 2: 160-179/100-109

• **TREATMENT RECS.***
  - Lifestyle and Medications to keep BP < 140/90 if < 75 years old; and SBP < 160 for 75-80 years old

*When choosing a BP target for a particular patient, take into account patient characteristics, such as age and any existing co-morbidities (such as DM, heart disease, kidney disease, etc.) and document the patient’s BP target. Population management goals are not individual goals, for which patients’ unique medical scenario and the weighing of risks and benefits must be taken into account.*

**ASSESSMENT**

- **History:** Complete history including pertinent symptom review for cardiovascular disease (CVD) or TOD, medication use (including over-the-counter [OTC] and herbals), illicit drug use history, personal or family history of cardiac disease, HTN, DM, cerebrovascular accident (CVA), CKD, peripheral vascular disease (PVD), or other coronary heart disease (CHD) equivalent. Age of onset is also important.
- **Calculate ASCVD Risk Level:** Document CV risk based pooled cohort equation [cvriskcalculator.com](http://cvriskcalculator.com)
- **Physical Exam:** Accurate BP measurements in both arms (use higher reading), heart and lung exam, palpation of pulses, assessment for carotid, abdominal, femoral bruits, thyroid palpation, abdominal exam for masses, organomegaly, pulsatile aorta, extremities for edema and pulses, and neurologic exam. Funduscopic examination is best completed in eye clinic.
- **Initial Diagnostic Evaluation:** ECG, UA, blood glucose and hematocrit, serum potassium, creatinine/GFR, calcium, lipid profile. Consider secondary causes of HTN and test for these if clinically indicated.

**TREATMENT**

- **Education:** Regarding diet, reducing sedentary time, increasing aerobic exercise, maintaining weight or weight loss (if BMI > 25), smoking avoidance, importance of HTN management, and the importance of adherence with therapy.
- **Therapeutic lifestyle changes:** Diet: ↓ daily intake of sodium, ↑ exercise (e.g., brisk walking at least 30 min/day most days of week), limiting alcohol consumption, and weight loss if needed.
- **Medication:** Choose based on comorbid clinical conditions and patient preference.
  - Initial drug therapy: Typically a diuretic, angiotensin converting enzyme inhibitor (ACEI) or calcium channel blocker (CCB).
  - Initiate therapy with two medications if BP ≥ 160/100 at diagnosis, or if goal is lowering BP > 20mmHg/10mmHg. Two or more medications are often required to achieve BP goal.
  - Diuretics should usually be included in any regimen of three or more drugs.
  - If BP not controlled with 3 meds, evaluate adherence, consider secondary HTN. May need a specialist.

**MONITORING**

**Follow-up visits:** Frequency will depend on HTN Stage and control, as clinically indicated, but at least every 365 days. Check BP at every visit. In general, the patient should be seen by a primary care team member at least Q 1 month until controlled.
- BP checks can be performed as nurse visits, but the provider must review and act as clinically indicated.