## Goals

- Minimize risk of increased comorbidities associated with uncontrolled or undetected hypertension such as heart attack, stroke, and heart failure.
- Provide optimal pharmacotherapy for hypertensive patients with little or no side effects.
- Monitor patient and improve compliance with therapy.
- Meet patients’ and families’ expectations and satisfaction with care and education in regards to hypertension.

## Medication Reconciliation

- Accurately and completely reconcile all medications, including herbal and over the counter, patient is taking across the continuum.

## Initial Assessment

### Medical History
- Focus on modifiable risk factors such as weight control, sodium and cholesterol intake, physical activity, stress, alcohol use, and smoking.
- Assess all medications being used including prescription, herbal, over the counter, and illicit drugs.
- Document any personal or family history of hypertension, cerebrovascular disease, cardiovascular disease, diabetes mellitus, dyslipidemia, chronic kidney disease or sleep apnea.

### Physical Exam
- Office measurement of blood pressure is done with a manual or automated sphygmomanometer. Proper protocol is to use the mean of 2 measurements taken while the patient is seated with back supported and feet on floor, allowing ≥ 5 minutes between entry into the office and blood pressure measurement. Use an appropriately sized arm cuff, and place the patient’s arm at the level of the right atrium. Multiple measurements over time have better positive predictive value than a single measurement.
- Automated office blood pressure measurement, which is an average of multiple automated measurements taken while the patient is alone in a room, may yield results similar to those of daytime ambulatory blood pressure monitoring.
- Ambulatory and home blood pressure monitoring can be used to confirm a diagnosis of hypertension after initial screening.
- Measurement of blood pressure with verification in the contra lateral arm.
- Height and weight
- Calculation of body mass index (BMI).
- Waist circumference
- Fundoscopic exam for hypertensive retinopathy.
- Auscultation for carotid, abdominal, and femoral bruits.
- Palpation of the thyroid gland.
- Assessment of the heart for abnormal rate and rhythm, additional heart sounds, murmurs, or increased size.
- Auscultation of lung sounds for rales or evidence of bronchospasms.
- Examination of abdomen for abnormal aortic pulsation, masses, enlarged kidneys.
- Extremity evaluations for decreased or absent peripheral pulses, bruits, or edema.
- Neurological assessment.

### Laboratory Studies
- **Potassium**
- **Creatinine (or the corresponding estimated GFR)**
- **Fasting Glucose**
- **Hemoglobin and hematocrit**
- **Calcium**
- **Urinalysis**
- **Fasting Lipid Profile**
- **EKG**
- Optional tests include measurement of urinary albumin excretion or albumin/creatinine ratio
- **Liver function tests**
## Risk Intervention

### Classification

<table>
<thead>
<tr>
<th>JNC 8 Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>For adults aged ≥ 18 years with hypertension</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient Subgroup</th>
<th>Systolic BP Goal</th>
<th>Diastolic BP Goal</th>
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<tbody>
<tr>
<td>Age ≥ 60 years</td>
<td>SBP &lt;150</td>
<td>and</td>
</tr>
<tr>
<td>Age &lt; 60 years</td>
<td>SBP &lt;140</td>
<td>and</td>
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<tr>
<td>&gt;18 years with CKD, with or without diabetes</td>
<td>SBP &lt;140</td>
<td>and</td>
</tr>
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<td>&gt;18 years with diabetes</td>
<td>SBP &lt;140</td>
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BP goals need to be individualized for each patient dependent on their co-morbidities.

### Treatment Recommendations

<table>
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<tbody>
<tr>
<td>Set Blood Pressure Goal and Initiate Blood Pressure Lowering Medication Based on Age, Diabetes, and CKD. Lifestyle interventions should continue throughout management.</td>
</tr>
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</table>

- In the general population ≥60, pharmacologic treatment to lower BP should be initiated at a SBP of 150 mmHg or higher or a DBP of 90 mmHg or higher. Patients should be treated to a goal SBP lower than 150 mmHg and a goal DBP lower than 90 mmHg.
- In the general population < 60 pharmacologic treatment to lower BP should be initiated at a SBP of 140 mmHg or higher or a DBP of 90 mmHg or higher. Patients should be treated to a goal SBP lower than 140 and a goal DBP lower than 90 mmHg.
- In the population of ≥ 18 with diabetes or CKD, initiate pharmacologic treatment at a SBP of 140 mmHg or higher or a DBP of 90 mmHg or higher. Patients should be treated to a goal SBP lower than 140 mmHg and DBP lower than 90 mmHg.
- In the general black population, including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic, or a calcium-channel blocker, alone or in combination.
- In the general nonblack population, including those with diabetes, initial antihypertensive treatment should include a thiazide-type diuretic, calcium-channel blocker, angiotensin-converting enzyme inhibitor, or angiotensin-receptor blocker, alone or in combination.
- In the population ≥ 18 with chronic kidney disease, initial or add-on antihypertensive treatments should include an angiotensin-converting enzyme inhibitor or an angiotensin-receptor blocker to improve kidney outcomes. This applies to all CKD patients with hypertension, regardless of race or diabetes status.
  - NOTE: ACE inhibitors and ARBs should not be used concomitantly.
- Finally, the main objective of hypertension treatment is to attain and maintain goal BP. If goal BP is not reached within a month of initiating treatment, increase the dose of the initial drug or add a second drug from one of these four classes (thiazide-type diuretics, calcium channel blockers, angiotensin-converting enzyme inhibitors, or angiotensin receptor blockers). The clinician should continue to assess BP and adjust the treatment regimen until goal BP is reached.
- If goal BP cannot be reached with two drugs, add and titrate a third drug from one of the four classes. Do not use ACE inhibitors and ARB together in the same patient. If goal BP cannot be reached using above recommended drugs because of contraindications or the need to use more than 3 drugs to reach goal BP, antihypertensive drugs from other classes can be used.
- Referral to a hypertension specialist may be indicated for patients in whom goal BP cannot be attained using the above strategy or for the management of complicated patients for whom additional clinical consultation is needed.
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<th><strong>Risk Intervention</strong></th>
<th><strong>Recommendations</strong></th>
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<td><strong>Follow-Up Assessment</strong></td>
<td>Recommend a minimum of 2 visits per year after BP is at goal and stable with increased frequency as indicated by clinical presentation.</td>
</tr>
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</table>
| **Medical History** | - Continue to focus on modifiable risk factors.  
- Reassess all medications being used.  
- Document any new family history to include hypertension, cerebrovascular disease, cardiovascular disease, diabetes mellitus, dyslipidemia, chronic kidney disease or sleep apnea. |
| **Physical Exam** | - Measurement of blood pressure with verification in the contra lateral arm.  
- Weight to be included with each exam. (Height to be recorded once a year.)  
- Auscultation for carotid, abdominal, and femoral bruits.  
- Palpation of thyroid gland.  
- Assessment of the heart for abnormal rate and rhythm, additional heart sounds murmurs, or increased size.  
- Auscultation of lung sounds for rales or evidence of bronchospasms.  
- Examination of the abdomen for abnormal aortic pulsation, masses, or enlarged kidneys.  
- Extremity evaluations for decreased or absent peripheral pulses, bruits, or edema. |
| **Laboratory Studies** | - Serum potassium and creatinine at least 1-2 times every year.  
- Additional tests may be ordered at the discretion of the provider based on exam and other clinical findings. |
| **Lifestyle Modification** | Reviewed and evaluated at least once a year.  
- Maintain optimal weight; optimal body mass index <25 kg/m2.  
- Limit sodium intake. Consume no more than 2.400 mg of sodium/day. Further reduction of sodium intake to 1,500 mg/day is desirable since it is associated with even greater reduction in BP; and, even without achieving these goals, reducing intake by at least 1,000 mg/day will assist in lowering BP.  
- Adopt the Dietary Approaches to Stop Hypertension (DASH) eating plan which is rich in fruits, vegetables, whole grains and low-fat dairy products.  
- Moderation in the use of alcohol. Recommend no more than one drink for women or two drinks for men/day (about 1 oz. or 30 ml of ethanol).  
- In general, advise adults to engage in aerobic physical activity to lower BP: 3-4 sessions per week, lasting on average 40 minutes per session, and involving moderate to vigorous-intensity physical activity.  
- Smoking cessation  
  Follow: Ask, Assess, Advise, Assist, and Arrange method  
  - Ask about tobacco use  
  - Assess willingness to quit  
  - Advise patient and family to stop smoking  
  - Assist in quitting by providing counseling, offer medication, and formal cessation programs as appropriate.  
  - Arrange for follow-up  
- Stress management  
- Self-measured blood pressure monitoring  
- If patient has Obstructive Sleep Apnea, the use of Continuous Positive Airway Pressure device |
| **Self Management Education** | - Assess educational needs and provide self-management education.  
- Provide access to an interdisciplinary team (RN, Certified Diabetes Educator, nutritionist, PCP)  
- Develop individualized educational plans |
| **Psychosocial assessment** | Screening completed at every office visit.  
  Should include but is not limited to:  
  - Attitudes about the Illness  
  - Expectations for medical management  
  - General quality of life  
  Reassess periodically during assessment. Contacts to mental health specialist should occur when the patient exhibits any of the following: |
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<tr>
<td></td>
<td>• Gross noncompliance with medical regimen (due to self or others)</td>
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<tr>
<td></td>
<td>• Depression</td>
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<td></td>
<td>• Cognitive functioning that significantly impairs judgment.</td>
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</table>

The above are the Clinical Practice Guidelines approved by SummaCare. You may also see also Clinical Practice Guidelines for: 2017 at: [http://www.onlinejacc.org/content/71/19/e127](http://www.onlinejacc.org/content/71/19/e127)

### Scientific Evidence Sources:


2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults. Report from the Panel Members Appointed to the Eighth Joint National Committee (JNC 8) [http://jamanetwork.com/journals/jama/fullarticle/1791497](http://jamanetwork.com/journals/jama/fullarticle/1791497)


### Guidelines reviewed/updated:

9/24/02 Clinical Quality Committee
7/22/03 Clinical Quality Committee
8/4/05 Clinical Quality & Resource Management Committee
6/7/07 Clinical Quality & Resource Management Committee
6/5/08 Clinical Quality & Resource Management Committee
6/3/2010 Clinical Quality & Resource Management Committee
6/7/2012 Clinical Quality & Resource Management Committee
5/8/2014 Medical Policy Committee Meeting
11/3/2016 Medical Policy Committee Meeting
12/6/2018 Medical Policy Committee Meeting