Accurate Blood Pressure Measurement - Ambulatory

Jackson T. Wright, Jr., MD, PhD
Emeritus Professor
Case Western Reserve University School of Medicine
Co-Lead Team Best Practices, Cardi-OH

Shari Bolen, MD, MPH
Associate Professor of Medicine
Case Western Reserve University
Co-PI, Cardi-OH
Topics Covered

- Strength of evidence for recommendation and use of out-of-office and home blood pressure measurement
Out-of-office BP measurements are recommended to confirm the diagnosis of hypertension and for titration of BP-lowering medication, in conjunction with telehealth counseling or clinical interventions. SR indicates systematic review. 2017 ACC/AHA Guideline
Out-of-Office BP Measurement

- **Rationale:**
  - Provides a better risk prediction than office-based monitoring
  - Correlates better with target organ damage, e.g. LVH, albuminuria

**Uses and Advantages**

- Helps identify WCH and masked hypertension
- Multiple readings throughout the day may reveal patterns in blood pressure and periods when control is inadequate
- Improves patient adherence
- Reduces costs
- Take readings 1 week per month, 2 readings in the AM and PM, throw out the first day and get 24 values for a week q month

## Corresponding Values of SBP/DBP for Clinic, HBPM, Daytime, Nighttime and 24-Hour ABPM Measurements

<table>
<thead>
<tr>
<th>Clinic</th>
<th>HBPM</th>
<th>Daytime ABPM</th>
<th>Nighttime ABPM</th>
<th>24-Hour ABPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>120/80</td>
<td>120/80</td>
<td>120/80</td>
<td>100/65</td>
<td>115/75</td>
</tr>
<tr>
<td>130/80</td>
<td>130/80</td>
<td>130/80</td>
<td>110/65</td>
<td>125/75</td>
</tr>
<tr>
<td>140/90</td>
<td>135/85</td>
<td>135/80</td>
<td>120/70</td>
<td>130/80</td>
</tr>
<tr>
<td>160/100</td>
<td>145/90</td>
<td>145/90</td>
<td>140/85</td>
<td>145/90</td>
</tr>
</tbody>
</table>

*ABPM = ambulatory blood pressure monitoring; BP = blood pressure; DBP = diastolic blood pressure; SBP = systolic blood pressure; HBPM = home blood pressure monitoring*

2017 ACC/AHA Guideline