Summary of Recommended Guideline

Hypertension: Accurate Measurement of Blood Pressure

Key Highlights from the Recommended Guideline

- Follow standardized technique for measuring blood pressure in the office
- Repeat the measurement at least twice
- Consider using ambulatory blood pressure monitoring and self-monitoring by the patient when appropriate

Scope: For health professionals involved in the care of hypertensive patients

How do I accurately measure blood pressure in the office?

- Ensure that equipment is accurately calibrated and that anyone using it is well versed in the standardized technique of measuring blood pressure. [Level of Evidence: PR]

- Ensure the patient has not smoked, exercised or taken caffeine for 30 minutes before measuring blood pressure. [Level of Evidence: Not stated]

- Position the patient seated in a chair for at least 5 minutes, with feet on the floor. The patient’s arm should be supported at the level of the heart. [Level of Evidence: Not stated]
  - Also measure standing blood pressure if concerned about postural hypotension (e.g. when the patient reports symptoms or when you add a drug or change a dose). [Level of Evidence: Not stated]

- Use a cuff whose air bladder spans at least 80% of the circumference of the patient’s arm. [Level of Evidence: Not stated]

- Estimate the patient’s systolic blood pressure by palpating the radial pulse; then inflate the cuff 20-30 mm Hg above this and deflate at 2 mm Hg/second. [Level of Evidence: Not stated]

- Listen for the first Korotkoff sound (defining systolic blood pressure) and the disappearance of Korotkoff sound (defining diastolic blood pressure). [Level of Evidence: Not stated]

- Repeat the measurement at least twice and take the average. [Level of Evidence: Not stated]

- Provide patients with their BP values and goals both verbally and in writing [Level of evidence: Not stated]

www.gacguidelines.ca
What can I learn from the patient’s self-monitoring of blood pressure at home?

- Self-monitoring can identify patients whose blood pressure is consistently normal out of the office, even when it is increased in the office ("white coat hypertension"). [Level of Evidence: Not stated]
- BP self-measurements may improve patient adherence to therapy [Level of Evidence: Not stated]

When should I use ambulatory blood pressure monitoring?

- Use ambulatory blood pressure monitoring to identify patients with
  - White coat hypertension (seen in 20-35% of patients). [Level of Evidence: PR]
  - 24-hour blood pressure > 135/85 mm Hg (increased cardiovascular risk) [Level of Evidence: PR, F]
  - Apparent drug resistance [Level of Evidence: Not stated]
  - Autonomic dysfunction [Level of Evidence: Not stated]
- Use ambulatory blood pressure monitoring to evaluate patients who have hypotensive symptoms on antihypertensive medication therapy [Level of Evidence: Not stated]
- Recognize that ambulatory blood pressure monitoring measurements correlate more strongly with end-organ damage than do office measurements. [Level of Evidence: Not stated]

When should I reassess blood pressure (BP)?

- Reassess blood pressure (BP) according to absolute values and clinical situation. [Level of Evidence: Not stated]
  - If BP is 120-139/80-89, recheck in 1 year
  - If BP is 140-159/90-99, counsel the patient re lifestyle and confirm within 2 months
  - If BP is 160-180/100-109, evaluate or refer to source of care within 1 month.
  - With higher pressures (e.g., >180/110 mmHg), evaluate and treat immediately or within 1 week depending on clinical situation and complications. [See GAC Summary Hypertension: Emergencies and Urgencies]

Levels of Evidence

The levels of evidence used to grade the recommendations in this guideline are as follows:

<table>
<thead>
<tr>
<th>Level M</th>
<th>Meta-analysis; use of statistical methods to combine the results from clinical trials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level RA</td>
<td>Randomized controlled trials; also known as experimental studies</td>
</tr>
<tr>
<td>Level RE</td>
<td>Retrospective analyses; also known as case-control studies</td>
</tr>
<tr>
<td>Level F</td>
<td>Prospective study; also known as cohort studies, including historical or prospective follow-up studies</td>
</tr>
<tr>
<td>Level X</td>
<td>Cross-sectional surveys; also known as prevalence studies</td>
</tr>
<tr>
<td>Level PR</td>
<td>Previous review or position statements</td>
</tr>
<tr>
<td>Level C</td>
<td>Clinical interventions (nonrandomized)</td>
</tr>
</tbody>
</table>
The above recommendations were derived from the following GAC endorsed guideline:


Rating (out of 4): 🍎🍎🍎🍎

**Endorsed Date:** September 2005  
**Planned Review Date:** September 2008

Ontario Guidelines Advisory Committee  
500 University Ave., Suite 650,  
Toronto, ON M5G 1V7  
Telephone: 1-888-512-8173  
Fax: 416-971-2462  
Email: contact@gacguidelines.ca