

PLANK 1

TOOL: Blood Pressure Accuracy and Variability Quick Reference (HealthPartners)

Blood Pressure Accuracy and Variability Quick Reference

Essentials for Accurate Blood Pressure Measurement

- Have the patient sit quietly for a few minutes (Ask rooming questions before taking BP).
- Place the cuff on a **bare arm**.
- Use the **proper size cuff**; if two cuff sizes fit, use the larger one.
- Place the artery marker over the **brachial artery**.
- Apply the cuff carefully, allowing room for no more or no less than **two fingers** underneath.
- Make sure the patient's **back is supported and relaxed**.
- Make sure the patient's **feet are supported and legs uncrossed**.
- Keep the **upper arm supported, relaxed and at heart level**.
- Ask the patient to keep the **arm still and not talk** during the measurement cycle.

Blood Pressure Variability

The following activities affect a blood pressure reading.

Activity	Systolic (mm Hg)
Cuff too small (2,4,6,7,8,10,12,14,16,18,19)	10 to 40 ↑
Cuff over clothing (10,16,18)	10 to 40 ↑ or ↓
Back/feet unsupported (3,18)	5 to 15 ↑
Legs crossed (1,5,9,16,17,18)	5 to 8 ↑
Arm extended and unsupported (21)	Diastolic ↑ 10%
Patient arm tense (21,16)	15 ↑
Not resting 3 to 5 minutes (2,10,16,18,19,20)	10 to 20 ↑
Anxiety raises blood pressure/White Coat Hypertension. (18, 21)	As much as 30 ↑
Patient talking (2,10,11,16,17,18)	10 to 15 ↑
Labored breathing (1,6,18)	5 to 8 ↑
Full bladder (13,16,18)	10 to 15 ↑
Pain (16)	10 to 30 ↑
Arm below or above heart level (2,10,13,16,17,18)	10 ↑ or ↓ For every 1 cm above or below heart, BP varies by 0.8 mm Hg



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TIP SHEET

Blood Pressure Measurement Using OMRON Automatic Device

Techniques for Accurate Blood Pressure Measurement:

- The patient must *sit quietly, both feet flat on the floor and with the back supported* (not sitting straight or leaning forward without support) and *should not talk*.
- All clothing where the cuff will be placed must be removed (**Bare Arm**). Tight fitting or heavy clothing cannot be pushed up the arm.
- The **correct cuff size** must be used. If the ART arrow is near either end of the RANGE, change the cuff size.
- The **cuff must be placed ½ to 1 inch above the antecubital space** with the cuff's bladder (ART indicator) directly over the brachial artery on the upper arm.
- The **cuff must be wrapped so that 2 fingers can be inserted between the cuff and the arm**.
- The middle of the cuff on the upper arm is at the level of the right atrium (the mid-point of the sternum)
- The **patient's arm must be supported** either on the desk (while ensuring the patient's back is still supported by the chair), by staff holding the extended arm firmly and steadily at the level of the heart, or by resting the patient's arm on the OMRON basket (adjustable to any height). The patient cannot hold his/her own arm up or out.
- The OMRON is much more sensitive than a manual BP device to any movement by the patient or touch by the practitioner during BP measurement.
- **The patient must be observed while the OMRON measures the BP.** If the patient moves, the OMRON may not show an ERROR, but rather the machine may stop, indicating an inaccurate (falsely elevated) BP. If this occurs, the BP must be repeated.
- The OMRON may also give an Error message if the patient has an irregular heartbeat or arrhythmia. Use the manual mode to take a manual BP when this occurs.
- If the initial BP is 140/90 or greater, the patient should wait quietly for at least five minutes prior to taking the second BP. If the second BP remains 140/90 or greater, inform the Provider.
- The OMRON should **only be used on the upper arm** (never on the thigh, forearm, or lower leg).
- If the OMRON errors 1-2 times on the automatic mode, take the BP using the OMRON Manual Mode rather than the manual cuff in the exam room.
- BP should never be repeated in the same arm without waiting 1-2 minutes.

OMRON Device Facts:

- The OMRON comes with four cuff sizes. If the patient's arm is larger or smaller, you must take a manual BP.
- Never use a non-OMRON cuff with the OMRON unit.
- When using the unit with the battery, it will turn off automatically after five minutes and data on the display screen is lost and cannot be retrieved. Record your results early!
- When fully charged, the battery should last for 300 BP measurements. When the battery icon starts to blink, 20-30 measurements remain on the battery and it should be charged. Battery life is approximately 2 years with regular use. The battery should be charged only one time per week for increased optimal battery life.

