



Hillrom™

# IT MATTERS HOW YOU MEASURE

**Your Quick Reference  
Guide to Accurate Blood  
Pressure Measurements &  
Reading Variability**

## Help Capture Accurate BP Readings

- If your patient is in between sizes, use the larger cuff size
- Place the middle of the cuff on your patient's bare upper arm, over the brachial artery
- Leave room for no more than two fingers between your patient's arm and the cuff
- Have your patient sit in a chair that supports their back, uncross their legs and keep their feet flat on the floor
- Rest your patient's arm on a flat surface with the cuff at heart level
- Allow your patient to rest for five minutes
- Have your patient remain still and quiet during the measurement

# What You Need to Know About BP Variability

Blood pressure technique is notoriously easy to get wrong. See what could be impacting BP readings at your practice:

Activity	Systolic (mmHg)
Cuff too small <sup>2,4,6,7,8,10,12,14,16,18,19</sup>	10 to 40 ↑
Cuff over clothing <sup>10,16,18</sup>	10 to 40 ↑ or ↓
Back/feet unsupported <sup>3,18</sup>	5 to 15 ↑
Legs crossed <sup>1,5,9,16,17,18</sup>	5 to 8 ↑
Not resting 3 to 5 minutes <sup>2,10,16,18,19,20</sup>	10 to 20 ↑
Patient talking <sup>2,10,11,16,17,18</sup>	10 to 15 ↑
Labored breathing <sup>16,18</sup>	5 to 8 ↑
Full bladder <sup>13,16,18</sup>	10 to 15 ↑
Pain <sup>16</sup>	10 to 30 ↑
Arm below heart level <sup>2,10,13,16,17,18</sup>	1.8 /inch ↑ 4.6 /cm ↑
Arm above heart level <sup>10,13,16,17,18</sup>	1.8 /inch ↓ 4.6 /cm ↓

For more information, please contact your local distributor or Hillrom sales representative at 1-800-535-6663.

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- Adiyaman Ahmet, Tosun Nevin, Elving LammyD, Deinum Jaap, Lenders JacquesWM, Thien Theo. The effect of crossing legs on blood pressure. *Blood Press Monit* June 2007; 12:3: 189-193.
- Campbell NormanRC, McKay DonaldW. Accurate blood pressure measurement: Why does it matter? *CMAJ* 1999; 161 @: 277-278.
- Cushman WilliamC, Cooper KarenM, Horne Richard A, Meydrech Edward F. Effect of back support and stethoscope head on seated blood pressure determinations. *Am J Hypertens* 1990; 3: 240-241.
- Fonseca-Reyes Salvador, Garcia de Alba-Garcia Javier, Parra-Carrillo JoseZ, Paczka-Zapata Jose Antonio. Effect of standard cuff on blood pressure readings in patients with obese arms. How frequent are arms of a 'large circumference'? *Blood Press Monit* 2003 8:3: 101-106.
- Foster-Fitzpatrick Lucille, Ortiz Anna, Sibilano Helena, Marcantonio Richard, Braun Lynne T. The effects of crossed leg on blood pressure measurement. *Nursing Research* Mar/Apr 1999; 48:2: 105-108.
- Geddes LA, Whistler SJ. The error in indirect blood pressure measurement with the incorrect size cuff. *Amer Heart J* July 1978; 96:1: 4-8.
- Gomez-Marin O, Prineas RJ, Rastam L. Cuff bladder width and blood pressure measurement in children adolescents. *J of Hypertens* Oct 1992; 10:10: 1235-1241.
- Iyriboz Y, Hearon CM, Edwards K. Agreement between large and small cuffs in sphygmomanometry: A quantitative assessment. *J of Clin Monitoring* Mar 1994; 10:2: 127-133.
- Keele-Smith Rebecca, Price-Daniel CeCilia. Effects of crossing legs on blood pressure measurement (Research Data). *Virginia Henderson Internat Nurs Lib* Aug 2007.
- Lockwood Craig, Conroy-Hiller Tiffany, Page Tamara. Vital signs. *JBIM Reports* 2004; 2: 207-230.
- Lynch JamesJ, Long JackM, Thomas SueAnn, Malinow KennethL, Katcher AaronHonori. The effects of talking on the blood pressure of hypertensive and normotensive individuals. *Psychosomatic Medicine* Feb 1981; 43:1: 25-33.
- Manning DennisM, Kuchirka Carolee, Kaminski Jill. Miscuffing: inappropriate blood pressure cuff application. *Diag Methods Hypertens* 1983; 68:4: 763-766.
- Marx GertieF, Orkin LouisR. Overdistention of the urinary bladder during and after anaesthesia. *Can Anaes Soc J* Sep 1966; 13:5: 500-504.
- Netea RT, Lenders JWM, Smits P, Thien T. Arm position is important for blood pressure measurement. *J Hum Hypertens* Feb 1999; 13:2: 105-109.
- Nicholas WC, Watson RL, Barnes TY, Goodinow C, Russel E. Does blood pressure cuff size make a difference in blood pressure readings? *J Mississippi Med Assoc* Feb 1985; 26:2.
- O'Brien Eoin, Asmar Roland, Beilin Lawrie, Imai Yutaka, Mallion Jean-Michel, Mancina Giuseppe, Mengden Thomas, Myers Martin, Padfield Paul, Palatini Paolo, Parati Gianfranco, Pickering Thomas, Redon Josep, Staessen Jan, Stergiou George, Verdecchia Paolo. European Society of Hypertension recommendations for conventional, ambulatory and home blood pressure measurement. *J Hypertens* 2003; 21: 821-848.
- Peters GrantL, Binder SaraK, Campbell NormRC. The effect of crossing legs on blood pressure: a randomized single-blind cross-over study. *Blood Pressure Monitoring* 1999; 4:2: 97-101.
- Pickering ThomasG, Hall JohnE, Appel LawrenceJ, Falkner BonitaE, Graves John, Hill MarthaN, Jones DanielW, Kurtz Theodore, Sheps SheldonG, Roccella EdwardJ. Recommendations for blood pressure measurement in humans and experimental animals: Part 1: Blood pressure measurement in humans: A statement for professionals from the Subcommittee of Professional and Public Education of the American Heart Association Council on High Blood Pressure Research. *Hypertens* 2005; 45: 142-161.
- Rastam I, Prineas RJ, Gomez-Marin O. Ration of cuff width/arm circumference as a determinant of arterial blood pressure measurements in adults.
- Roubsanthisuk Weranuj, Wongsurin Unticha, Saravich Surachai, Buranakitjaroen Peera. Blood pressure determination by traditionally trained personnel is less reliable and tends to underestimate the severity of moderate to severe hypertension. *Blood Press Monit* 2007; 12: 61-68.

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Inaccurate Measurement Risk if a clinician does not follow best practices for obtaining a BP.