

University of Wisconsin Department of Family Medicine – Residency Clinics
CLINICAL POLICY AND PROCEDURE

TITLE: BLOOD PRESSURE MEASUREMENT

Effective Date: July 2006

Approval: Vice Chair of Clinical Care

Supersedes Policy: none

Contact: DFM Director of Quality Services

Reviewed	7/2009			

SCOPE: Applies to all DFM residency clinics.

PURPOSE: To provide guidelines for taking a blood pressure of patients at DFM Residency Clinics.

DEFINITION: A blood pressure helps to determine the balance of several hemodynamic factors: cardiac output, peripheral vascular resistance, blood volume viscosity, and elasticity of the arteries. A client's blood pressure should be carefully compared with pulse rate and character in addition to other cardiovascular assessment findings. The examiner should be aware of possible signs and symptoms of high blood pressure (hypertension) such as headache, face flushing, nosebleed, and fatigue in older adults as well as signs and symptoms of low blood pressure, dizziness, mental confusion, restlessness, pale or cyanotic (dusky) skin and mucus membranes, and cool mottled skin over the extremities.

POLICY: The clinical staff will utilize the following guidelines to properly measure a blood pressure in a DFM residency patient to accurately measure indirect systolic and diastolic blood pressure on patients.

SUPPLIES: Stethoscope, sphygmomanometer with cuff, medical record

PROCEDURE:

Obtaining blood Pressure from an Upper Extremity:

1. Wash hands and gather equipment.
2. Check blood pressure on all adults and children over 3 years of age at each visit.
3. Identify the patient and introduce yourself to the patient.
4. Provide good light and privacy by closing curtains or door.
5. Explain procedure and the purpose of needing a blood pressure.
6. Assess factors that influence blood pressure, such as smoking, cold air, caffeine, or exercise. When rooming the patient have the patient seated and take the blood pressure last, just prior to exiting the room. Measurements should be taken after 3 to 5 minutes of resting. Children and adults should have measurements taken while sitting with the arm at the level of the heart, and infants should have measurements taken while supine. Ideally, the patient's feet should be flat on the floor with their back supported.
7. Determine proper cuff size:
 - *The bladder cuff length must cover 80% of the upper arm and not overlap.
 - *Cuff should be long enough to encircle arm several times.
 - *Cuffs should be 20% wider than diameter of limb, 2/3 of distance from axilla to antecubital space:
 - *Cuffs that are too small may lead to false high readings.

*Cuffs that are too large may lead to low high readings.

8. Determine best site for cuff placement.
 - Avoid selecting an extremity with an IV line, arteriovenous shunt, presence of trauma, side of mastectomy or lymph node removal, or side of paralysis or paresis after a cerebrovascular accident (CVA). In infants and young children, the right arm is preferred to avoid potentially low readings due to uncommon condition of coarctation of the aorta.
 - Elevate arm to heart level supporting arm:
 - Having the arm unsupported produces false-low readings
 - Having arm above level of heart produces false-low readings
9. Expose patient's upper arm fully, removing any clothing that could affect measurement.
10. Palpate brachial artery (on lower medial side of biceps muscle).
11. Position cuff 2.5 cm (1 inch) above site of pulsation (Antecubital fossa).
 - Place stethoscope over artery without touching cuff.
 - Stethoscope that fits poorly in examiner's ears produces false diastolic readings.
12. Center arrows marked on cuff along brachial artery.
 - Inflating bladder directly over brachial artery ensures that proper pressure is applied during inflation.
13. With cuff fully deflated, wrap cuff evenly and snugly around upper arm.
 - Loose-fitting cuff causes false elevations in blood pressure readings.
14. Be sure that pressure gage is positioned at eye level.
15. Close valve of pressure bulb, turning clockwise until tight.
16. Quickly inflate cuff to 30mm Hg above patient's palpated systolic level or previously measured.
17. Slowly open valve, allowing arrow to fall at rate of 2 to 3 mm Hg per second.
18. Note point on pressure gauge at which first clear tapping sound is heard (1st Korotkoff sound).
19. Continue to deflate cuff gradually, noting point at which sound disappears in adults and children (5th Korotkoff sound) [note pressure to nearest 2 mm Hg].
20. Document procedure including time of procedure, blood pressure reading(s) and, patient's reaction (if any).
21. If reading is unclear, wait at least 2 minutes and repeat blood pressure.
22. Wash hands and gather equipment

22. If blood pressure reading is abnormally high or low notify patient's provider or staffing physician as soon as possible.

Normal Averages (systolic/diastolic)

- Newborn: 56-90/30-60 mm Hg
- Infant: 1 yr. 65-125/40-90 mm Hg
- 2 yr. 75-100/40-90 mm Hg
- Child: 2-4 yrs 80-120/45-85 mm Hg
- 5-8 yrs 85-115/50-60 mm Hg
- Teens 12-16 95-140/50-70 mm Hg
- Adults 18 + 110-140/60-90 mm Hg

Goals of Therapy for patients with chronic disease (systolic/diastolic)

- Uncomplicated hypertension: <140/90 mm Hg
- Coronary heart disease, diabetes, target organ damage, or chronic kidney disease: < 130/80 mm Hg
- Chronic kidney disease with proteinuria > 1 gm/24 hours: <125/75 mm Hg

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Adapted From: UWMF Policy: Blood Pressure Measurement (March 2005) written by Ronnie Peterson, R.N., M.S., UWMF Clinical Staff Educator

Reviewed By: DFM Residency Statewide Diabetes Improvement Team

AUTHORIZATION:

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