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San Francisco Health Network
Behavioral Health Services

BHS Adult Blood Pressure Monitoring Guidelines

PURPOSE

Monitoring blood pressure is a basic tool to screen for pre-hypertension and to monitor blood pressure control for clients with hypertension. Client screening of blood pressure is important in the behavioral health setting as clients are at significant risk for developing metabolic syndrome; risk factors include treatment with antipsychotic medications, poor diet, sedentary lifestyle and obesity. Measurement of annual height, weight and blood pressure for all clients who receive medication support services is a meaningful use criterion BHS has adopted.

1. FREQUENCY OF BLOOD PRESSURE MONITORING

1. All clients receiving medication support services should have at minimum a yearly blood pressure taken. Blood pressure monitoring is the responsibility of the psychiatric prescribing clinician.
2. For clients prescribed an atypical antipsychotic, follow the atypical antipsychotic guidelines, which may involve more frequent monitoring.

2. MEASURING BLOOD PRESSURE

Technique for measuring blood pressure:

1. Client position:
 - a. Seated and back supported
 - b. Both feet flat on the floor
 - c. Left arm preferred. Arm at rest, supported at the level of the heart
 - d. Palm facing upwards
 - e. Choose appropriate cuff size to ensure accurate reading
 - f. Ideally, at rest for 5 minutes
 - g. If possible, turn blood pressure monitor away from client
2. If using an automatic Welch Allyn machine:
 - a. Place “artery index marker” on above the artery, which is located on the medial side of arm. Grey cord should lie in the middle part of the arm.
 - i. If measuring vitals on patient’s right arm, rotate the cuff upside down and follow the same positioning.
 - b. Wrap cuff around arm and secure with Velcro.
 - c. Check cuff size. The cuff is the correct size if the “artery index marker” line lies within the middle of the white horizontal size check line.
 - d. Press reading button to start measurement. Measurement should take 10-15 seconds
 - e. Machine can be left plugged in after use.
 - f. See Appendix 2 for additional information on the use and maintenance of the Welch Allyn Blood Pressure machine.

3. General Do's and Don'ts when measuring blood pressure
 - a. Do:
 - i. Have patient remove clothing on arm. Skin should be in contact with the cuff. Clothing over the arm may cause an inaccurate reading.
 - ii. Ask patient about caffeine consumption, smoking, or exercising within the last hour. If yes to any of the above, consider checking BP at the end of the visit.
 - iii. Wait for patient to be in a relaxed state and avoid measurements if patient is anxious, nervous, or agitated.
 - b. Don't:
 - i. Patient should not be talking during measurement
 - ii. Patient should not be chewing gum.
 - iii. Patient should not be out of breath when taking BP measurement.
4. If BP is elevated (>140/90), wait at least five minutes, then repeat measurement.
 - a. If repeating BP measurements during the same visit:
 - i. Wait 5 min between measurements
 - ii. Consider switching cuff to the other arm
 - iii. Use the lower reading if multiple BP measurements are taken
 - iv. **NOTE:** Resting between readings can significantly drop blood pressure
 - b. If the reading is much higher than patient's baseline, check cuff size. Small cuff may provide falsely high readings.

Documentation:

Document blood pressure results in the patient medical record. If using Avatar, be sure to enter results using the Vitals Entry Form.

Scope of practice:

1. Blood pressure should be measured only by staff that have received training and have blood pressure monitoring included in their scope of practice.

3. RESPONSE TO BLOOD PRESSURE RESULTS

Table 1. Shows the guidelines for responding to blood pressure results. Referral to “primary care” includes referral to clinic behavioral health homes, if available.

Table 1: See Appendix 1 for Target Blood Pressure Goals. Below are recommendations for follow up based on initial blood pressure measurements for adults without end organ damage:

Category	SBP mmHg	DBP mmHg	Follow-up
Normal	<120	and <80	Recheck in 1 year or sooner based on BHS antipsychotic guidelines.
Pre-hypertension	120-139 patients <60 years, or with DM or CKD	or 80-90	Recheck in 1 year. Refer patient to primary care for follow-up in 6-12 months.
	120-149 Patients ≥60 years, without DM or CKD		
Stage one hypertension	140-159 patients <60 years, or with DM or CKD	or 90-99	Recheck/confirm within 2 months. Refer patient to primary care within 2 months.
	150-159 Patients ≥60 years, without DM or CKD		
Stage two hypertension	≥160	or ≥100	Refer patient to primary care within 1 month
Hypertensive Urgency	≥180	or ≥ 110	Refer patient to urgent care within 2 days, or send to ER by ambulance if exhibiting: confusion or altered mental status, chest pain, or difficulty breathing; irregular heart rate or appearance of severe illness
Pregnancy	≥ 140	≥ 90	Refer patient to prenatal provider, or urgent care if she doesn't have a provider, within 48 hours.

DM = Diabetes Mellitus

CKD = Chronic Kidney Disease

Reference: “2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8),” US Department of Health and Human Services, National Institutes of Health, National Heart Lung and Blood Institute

4. Lifestyle Modification Recommendations from 2013 AHA/ACC Guideline on Lifestyle Management to Reduce Cardiovascular Risk

Clinicians should encourage clients to follow the lifestyle recommendations below

Modification	Recommendation for ideal	Average SBP Reduction Range
Weight reduction	Achieve or maintain normal body weight (BMI range: 18.5-24.9 km/m ²)	5-20 mmHg/10 kg
DASH eating plan	Diet high in fruits, vegetables, and low fat dairy products. Diet low in saturated and total fat. Diet that limits sweets, sugar sweetened beverages and red meat.	8-14 mmHg
Dietary sodium reduction	Reduce sodium to no more than 2,400 mg per day. Further reduction to 1,500 mg per day can result in greater BP reduction. Even without achieving these goals, reductions of 1000 mg per day lower BP.	3-7 mmHg
Aerobic physical activity	Regular aerobic physical activity 3- 4 days per week, lasting 40 minutes per session, and involving moderate to vigorous activity	2-5 mmHg
Moderation of alcohol consumption	Men: no more than 2 drinks/day Women: no more than 1 drink/day	2-4 mmHg
Stop Smoking	Avoid Smoking	

¹“2013 AHA/ACC Guideline on Lifestyle Management to Reduce Cardiovascular Risk,” American College of Cardiology/American Heart Association Task Force on Practice Guidelines

See Client Educational Materials.

APPENDIX 1:
JNC 8 Blood pressure goals

	Goal SBP mmHg	Goal DBP mmHg
Patients age \geq 60 years	< 150	< 90
Patients age < 60 years	< 140	< 90
Patients (all ages) with DM or CKD	< 140	< 90

Reference: “2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8),” US Department of Health and Human Services, National Institutes of Health, National Heart Lung and Blood Institute

APPENDIX 2:
Information on the Welch Allyn Blood Pressure Machine

Welch Allyn Machine Maintenance:

1. Wash cuff and Velcro with soap and water periodically. Note, the Velcro portion contains the most bacteria and debris
2. After 5000 BP readings, service the device for calibration by calling facilities department who will set up service with Welch Allyn.
 - a. To check number of readings on machine, go to “cycle count”

Welch Allyn Machine Features:

1. “Review” feature saves the last 50 readings with date and time stamp.
2. “Cycle Count” keeps a log of all readings.
3. Machine utilizes SureBP technology and will measure blood pressure “on the way up,” taking the diastolic pressure prior to the systolic pressure.
 - a. As a default setting, the machine will divert to “step deflation” where it will increase the pressure up to 160mmHg, then measure blood pressure on the way down.