# Hypertension ControlToolkit


MaineHealth

# A Practice Toolkit for Controlling Hypertension

Welcome!

The MaineHealth Cardiovascular Health Team is pleased to introduce this toolkit. It is composed of evidence based tools and materials to educate and support both your staff and patient population. The tools and resources provided in the hypertension (HTN) toolkit have been vetted by a committee of physicians, nurses and practice managers to confirm viability of use in practice.

**How to Use the Hypertension Toolkit:**

- Make a commitment to improving hypertension control.
- Talk with your team about opportunities in your practice where blood pressure control needs improvement.
- Use the toolkit as a menu of options for interventions that the team can select to improve the care of patients with hypertension and help them get their blood pressure in control.

**Contact Us!**

Please take a moment to familiarize yourself with the contents. Let us know if there are other resources you need that are not in the toolkit. We are happy to work with you to find the resources you need.
If you have any questions, please do not hesitate to contact our team at Prevention@mainehealth.org

This toolkit is available online: www.mainehealth.org/htn

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# Section 1 CLINICAL SUPPORT

## Section 1.1 What Patients with Hypertension Want

The Cardiovascular Team at MaineHealth assembled a focus group of 14 patients (10 women, 3 men) with hypertension to discuss the struggle they face managing their disease every day. We used their discussion and feedback to help us decide what resources to develop and include in this toolkit – for patients and for staff. Most of the participants were on medications, and many have tried to make lifestyle modifications, including diet, exercise and meditation. Although they realized they need to take care of themselves, they found lack of time and education about the disease barriers to improving their health status.

**Questions patients want the practice team to answer upon hypertension diagnosis:**

1. The cause of hypertension
2. What they can expect moving forward:

   Am I going to die? What is the disease process? Is everyone affected the same way and for the same reason? Are there certain lifestyles that lead to it beside the obvious ones? Is the disease going to get worse over time? If I don't get this in check, will I develop diabetes? Who should I trust with all the changes in recommendations and research findings in the media?
3. Information or resources on what they can do to address it
4. Should they monitor at home and how often? Are home monitors accurate?

**How patients want their care to improve at the provider's office:**

1. More personalized care and relationship building
2. More time to thoroughly explain what hypertension is and how it will impact them (especially with other coexisting conditions)
3. More consistency in how blood pressure is taken (to avoid conflicting blood pressure readings between nurse and doctor)
4. A report of how blood pressure has improved or gotten worse over the visits
5. Have referrals and resources for patients who are interested in more education, support groups, health coaching and nutritionists
6. Utilize health behavior specialists for those who show signs/symptoms of depression/anxiety
7. Handout educational materials on hypertension, including management (blood pressure logs, food and exercise logs, etc.), disease progression and treatment options, as well as lifestyle changes, mental health impacts of managing a chronic disease, staying motivated and setting goals.
8. The next page lists what patients want, what is available in this toolkit, and next steps.

# Section 1.1 What Patients with Hypertension Want

### Section 1.1a Resources and Next Steps

| | What is available | Provider next steps |
|---|---|---|
| Patient Education | ▪ MH educational materials - Ordering Educational Materials tip sheet in toolkit | Hand out materials to patients |
| Support groups/education classes | ▪ Learning Resource Center courses<br>▪ Health Improvement Resource list in toolkit<br>▪ Group Visit Operational Guide in toolkit | Refer patients to the LRC's health education classes – 866-609-5183 |
| More education from provider | | Contact www.Prevention@mainehealth.org for help to initiate a group visit at your office |
| More support from clinical staff | ☐ Patient education section in toolkit<br>☐ Blood Pressure Onsite Training and Support in toolkit<br>☐ Health Improvement Resources for referrals in toolkit | Contact www.Prevention@mainehealth.org to set up a blood pressure training at your practice |
| Consistency in blood pressure technique in practice | ☐ Blood Pressure Onsite Training and Support in toolkit | Make sure all practices receive accurate blood pressure technique training and competency testing, as well as correct room set up |
| More information on home monitoring | ☐ Measuring Your Blood Pressure At Home in toolkit<br>☐ Blood Pressure Self-Monitoring Apps in toolkit | Refer to tip sheet and encourage home monitoring |
| Regular check-in appointments | ☐ ACC-AHA and JNC8 Hypertension Management Algorithms in toolkit<br>☐ Clinical Blood Pressure Reading: Workflow for Patients with Hypertension in toolkit | Use algorithm and workflow to schedule visits at guideline- based interval |

# Section 1.2 Algorithms for Hypertension Management

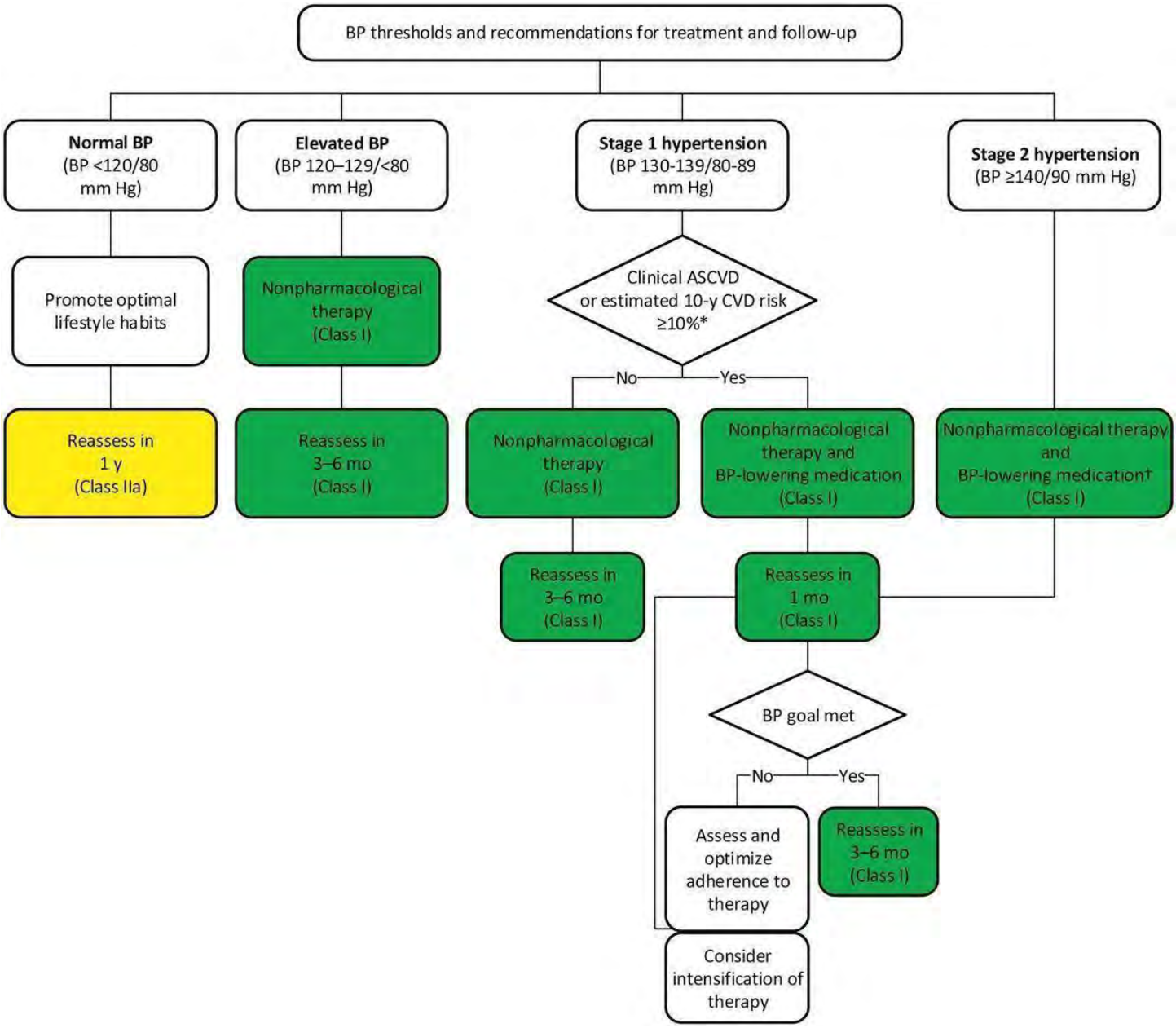
The JNC 8 and 2017 ACC/AHA algorithms are included in this toolkit. Controversy continues as to which approach is better. The 2017 ACC/AHA guidelines reflect the findings of the SPRINT trial, published in late 2015, which showed decreased morbidity and mortality with more stringent blood pressure control among non-diabetics.

This section also includes treatment recommendations from the 2017 ACC/AHA guidelines including basic and optional lab tests, choice of initial medication, and medication recommendations for different populations.

# Section 1.2 Algorithms for Hypertension Management

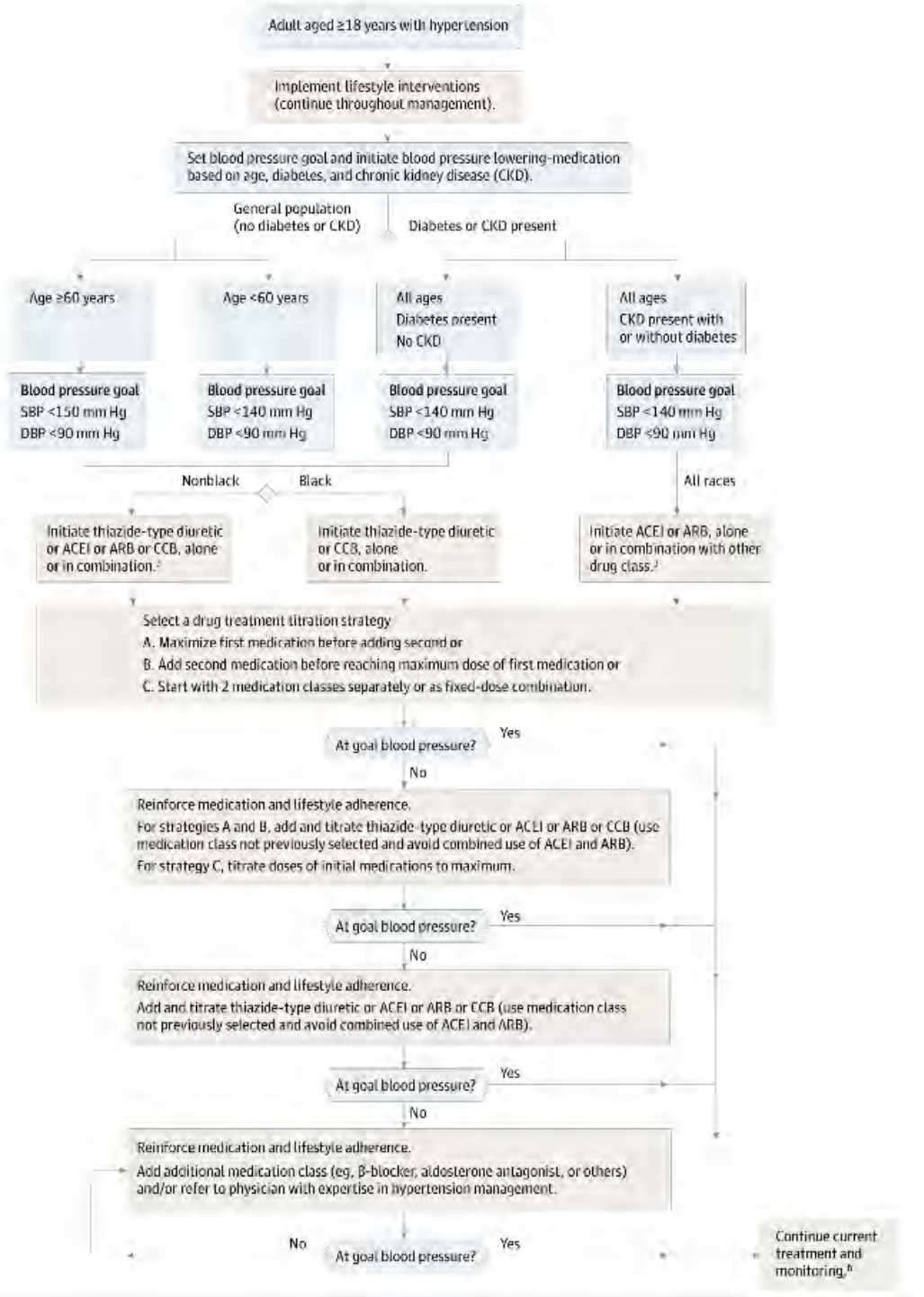
## 1.2a 2017 ACC/AHA Hypertension Guidelines

*2017 ACC/AHA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults, Figure 4*



# Section 1.2 Algorithms for Hypertension Management

## 1.2b 2014 JNC-8 Hypertension Guideline Management Algorithm




[a]ACEIs and ARBs should not be used in combination.
[b]If blood pressure fails to be maintained at goal, reenter the algorithm where appropriate based on the current individual therapeutic plan.

# Section 1.3 2017 ACC/AHA Treatment Recommendations

## 1.3a Nonpharmacologic Interventions

### Best Nonpharmacologic Interventions for Prevention and Treatment of Hypertension

| | Nonpharmacologic Intervention | Dose | Approximate Impact on SBP | |
|---|---|---|---|---|
| | | | Hypertension | Normotension |
| **Weight loss** | Weight/body fat | Ideal body weight is best goal but at least 1 kg reduction in body weight for most adults who are overweight. Expect about 1 mm Hg for every 1 kg reduction in body weight. | -5 mm Hg | -2/3 mm Hg |
| **Healthy diet** | DASH dietary pattern | Diet rich in fruits, vegetables, whole grains, and low-fat dairy products with reduced content of saturated and trans fat | -11 mm Hg | -3 mm Hg |
| **Reduced intake of dietary sodium** | Dietary Sodium | <1500 mg/day is optimal goal but at least 1000 mg/day reduction in most adults | -5/6 mm Hg | -2/3 mm Hg |
| **Enhanced intake of dietary potassium** | Dietary Potassium | 3500-5000 mg/day, preferably by consumption of a diet rich in potassium | -4/5 mm Hg | -2 mm Hg |
| **Physical activity** | Aerobic | ▪ 120-150 min/week<br>▪ 65%-75% heart rate reserve | -5/8 mm Hg | -2/4 mm Hg |
| | Dynamic Resistance | ▪ 90-150 min/week<br>▪ 50%-80% 1 rep maximum<br>▪ 6 exercises, 3sets/exercise, 10repetitions/set | -4 mm Hg | -2 mm Hg |
| | Isometric Resistance | ▪ 4 x 2 min (hand grip), 1 min rest between exercises, 30%-40% maximum voluntary contraction,3sessions/week<br>▪ 8-10/week | -5 mm Hg | -3 mm Hg |
| **Moderation in alcohol intake** | Alcohol consumption | In individuals who drink alcohol, reduce alcohol‡ to:<br>▪ Men: ≤ 2 drinks daily<br>▪ Women: < 1 drink daily | -4 mm Hg | -3 mm Hg |

* Type, dose, and expected impact on BP in adults with a normal BP and with hypertension

‡ In the United States, one "standard" drink contains roughly 14 grams of pure alcohol, which is typically found in 12 ounces of regular beer (usually about 5% alcohol), 5 ounces of wine (usually about 12% alcohol) and 1.5 ounces liquor (usually about 40% alcohol).

*2017 ACC/AHA Guideline for the Prevention, Detection Evaluation and Treatment of High Blood Pressure in Adults*

# Section 1.3 2017 ACC/AHA Treatment Recommendations

### 1.3b Clinician's Sequential Treatment Flow Chart

## Clinician's Sequential Flow Chart for the Management of Hypertension

| Clinician's Sequential Flow Chart for the Management of Hypertension |
|---|
| Measure office BP accurately |
| Detect white coat hypertension or masked hypertension by using ABPM and HBPM |
| Evaluate for secondary hypertension |
| Identify target organ damage |
| Introduce lifestyle interventions |
| Identify and discuss treatment goals |
| Use ASCVD risk estimation to guide BP threshold for drug therapy |
| Align treatment options with comorbidities |
| Account for age, race, ethnicity, sex, and special circumstances in antihypertensive treatment |
| Initiate antihypertensive pharmacological therapy |
| Insure appropriate follow-up |
| Use team-based care |
| Connect patient to clinician via telehealth |
| Detect and reverse nonadherence |
| Detect white coat effect or masked uncontrolled hypertension |
| Use health information technology for remote monitoring and self-monitoring of BP |

ASCVD indicates atherosclerotic cardiovascular disease; BP, blood pressure; CVD, cardiovascular disease; and SBP, systolic blood pressure.

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American Heart Association. Life is why

# Section 1.3 2017 ACC/AHA Treatment Recommendations

## 1.3c Basic and Optional Laboratory Tests for Primary Hypertension

### Basic and Optional Laboratory Tests for Primary Hypertension

| | |
|---|---|
| **Basic testing** | Fasting blood glucose* |
| | Complete blood count |
| | Lipid profile |
| | Serum creatinine with eGFR* |
| | Serum sodium, potassium, calcium* |
| | Thyroid-stimulating hormone |
| | Urinalysis |
| | Electrocardiogram |
| **Optional testing** | Echocardiogram |
| | Uric acid |
| | Urinary albumin to creatinine ratio |

*May be included in a comprehensive metabolic panel.
eGFR indicates estimated glomerular filtration rate.

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## 1.3d Choice of Initial Medication

### Choice of Initial Medication

| COR | LOE | Recommendation for Choice of Initial Medication |
|---|---|---|
| I | A$^{SR}$ | For initiation of antihypertensive drug therapy, first-line agents include thiazide diuretics, CCBs, and ACE inhibitors or ARBs. |

# Section 1.4 HTN Management for Patients with Common Conditions

## 1.4a Diabetes Mellitus

### Diabetes Mellitus

| COR | LOE | Recommendations for Treatment of Hypertension in Patients With DM |
|---|---|---|
| I | SBP: B-R[SR] | In adults with DM and hypertension, antihypertensive drug treatment should be initiated at a BP of 130/80 mm Hg or higher with a treatment goal of less than 130/80 mm Hg. |
| | DBP: C-EO | |
| I | A[SR] | In adults with DM and hypertension, all first-line classes of antihypertensive agents (i.e., diuretics, ACE inhibitors, ARBs, and CCBs) are useful and effective. |
| IIb | B-NR | In adults with DM and hypertension, ACE inhibitors or ARBs may be considered in the presence of albuminuria. |

SR indicates systematic review.

## 1.4b Chronic Kidney Disease

### Chronic Kidney Disease

| COR | LOE | Recommendations for Treatment of Hypertension in Patients With CKD |
|---|---|---|
| I | SBP: B-R[SR] | Adults with hypertension and CKD should be treated to a BP goal of less than 130/80 mm Hg. |
| | DBP: C-EO | |
| IIa | B-R | In adults with hypertension and CKD (stage 3 or higher or stage 1 or 2 with albuminuria [≥300 mg/d, or ≥300 mg/g albumin-to-creatinine ratio or the equivalent in the first morning void]), treatment with an ACE inhibitor is reasonable to slow kidney disease progression. |
| IIb | C-EO | In adults with hypertension and CKD (stage 3 or higher or stage 1 or 2 with albuminuria [≥300 mg/d, or ≥300 mg/g albumin-to-creatinine ratio in the first morning void]), treatment with an ARB may be reasonable if an ACE inhibitor is not tolerated. |

SR indicates systematic review.

# Section 1.4 HTN Management for Patients with Common Conditions

## 1.4c Stable Ischemic Heart Disease

### Stable Ischemic Heart Disease

| COR | LOE | Recommendations for Treatment of Hypertension in Patients With Stable Ischemic Heart Disease (SIHD) |
|---|---|---|
| I | SBP: B-R<br>DBP: C-EO | In adults with SIHD and hypertension, a BP target of less than 130/80 mm Hg is recommended. |
| I | SBP: B-R<br>DBP: C-EO | Adults with SIHD and hypertension (BP ≥130/80 mm Hg) should be treated with medications (e.g., GDMT beta blockers, ACE inhibitors, or ARBs) for compelling indications (e.g., previous MI, stable angina) as first-line therapy, with the addition of other drugs (e.g., dihydropyridine CCBs, thiazide diuretics, and/or mineralocorticoid receptor antagonists) as needed to further control hypertension. |
| I | B-NR | In adults with SIHD with angina and persistent uncontrolled hypertension, the addition of dihydropyridine CCBs to GDMT beta blockers is recommended. |
| IIa | B-NR | In adults who have had a MI or acute coronary syndrome, it is reasonable to continue GDMT beta blockers beyond 3 years as long-term therapy for hypertension. |
| IIb | C-EO | Beta blockers and/or CCBs might be considered to control hypertension in patients with CAD (without HF*r*EF) who had an MI more than 3 years ago and have angina. |

# Section 1.4 HTN Management for Patients with Common Conditions

## 1.4d Heart Failure with Reduced and Preserved Ejection Fraction

### Heart Failure With Reduced Ejection Fraction

| COR | LOE | Recommendations for Treatment of Hypertension in Patients With HF*r*EF |
|---|---|---|
| I | C-EO | Adults with HF*r*EF and hypertension should be prescribed GDMT titrated to attain a BP of less than 130/80 mm Hg. |
| III: No Benefit | B-R | Nondihydropyridine CCBs are not recommended in the treatment of hypertension in adults with HF*r*EF. |

### Heart Failure With Preserved Ejection Fraction

| COR | LOE | Recommendations for Treatment of Hypertension in Patients With HF*p*EF |
|---|---|---|
| I | C-EO | In adults with HF*p*EF who present with symptoms of volume overload, diuretics should be prescribed to control hypertension. |
| I | C-LD | Adults with HF*p*EF and persistent hypertension after management of volume overload should be prescribed ACE inhibitors or ARBs and beta blockers titrated to attain SBP of less than 130 mm Hg. |

# Section 1.4 HTN Management for Patients with Common Conditions

### 1.4e Peripheral Arterial Disease

## Peripheral Arterial Disease

| COR | LOE | Recommendation for Treatment of Hypertension in Patients With PAD |
|---|---|---|
| I | B-NR | Adults with hypertension and PAD should be treated similarly to patients with hypertension without PAD. |

### 1.4f Atrial Fibrillation

## Atrial Fibrillation

| COR | LOE | Recommendation for Treatment of Hypertension in Patients With AF |
|---|---|---|
| IIa | B-R | Treatment of hypertension with an ARB can be useful for prevention of recurrence of AF. |

### 1.4g Valvular Heart Disease

## Valvular Heart Disease

| COR | LOE | Recommendations for Treatment of Hypertension in Patients With Valvular Heart Disease |
|---|---|---|
| I | B-NR | In adults with asymptomatic aortic stenosis, hypertension should be treated with pharmacotherapy, starting at a low dose and gradually titrating upward as needed. |
| IIa | C-LD | In patients with chronic aortic insufficiency, treatment of systolic hypertension with agents that do not slow the heart rate (i.e., avoid beta blockers) is reasonable. |

# Section 1.4 HTN Management for Patients with Common Conditions

### 1.4h Aortic Disease

## Aortic Disease

| COR | LOE | Recommendation for Management of Hypertension in Patients With Aortic Disease |
|---|---|---|
| I | C-EO | Beta blockers are recommended as the preferred antihypertensive agents in patients with hypertension and thoracic aortic disease. |

### 1.4i Pregnancy

## Pregnancy

| COR | LOE | Recommendations for Treatment of Hypertension in Pregnancy |
|---|---|---|
| I | C-LD | Women with hypertension who become pregnant, or are planning to become pregnant, should be transitioned to methyldopa, nifedipine, and/or labetalol during pregnancy. |
| III: Harm | C-LD | Women with hypertension who become pregnant should not be treated with ACE inhibitors, ARBs, or direct renin inhibitors. |

### 1.4j Age-related Issues

## Age-Related Issues

| COR | LOE | Recommendations for Treatment of Hypertension in Older Persons |
|---|---|---|
| I | A | Treatment of hypertension with a SBP treatment goal of less than 130 mm Hg is recommended for noninstitutionalized ambulatory community-dwelling adults (≥65 years of age) with an average SBP of 130 mm Hg or higher. |
| IIa | C-EO | For older adults (≥65 years of age) with hypertension and a high burden of comorbidity and limited life expectancy, clinical judgment, patient preference, and a team-based approach to assess risk/benefit is reasonable for decisions regarding intensity of BP lowering and choice of antihypertensive drugs. |

# Section 1.4 HTN Management for Patients with Common Conditions

### 1.4k Racial and Ethnic Differences in Treatment

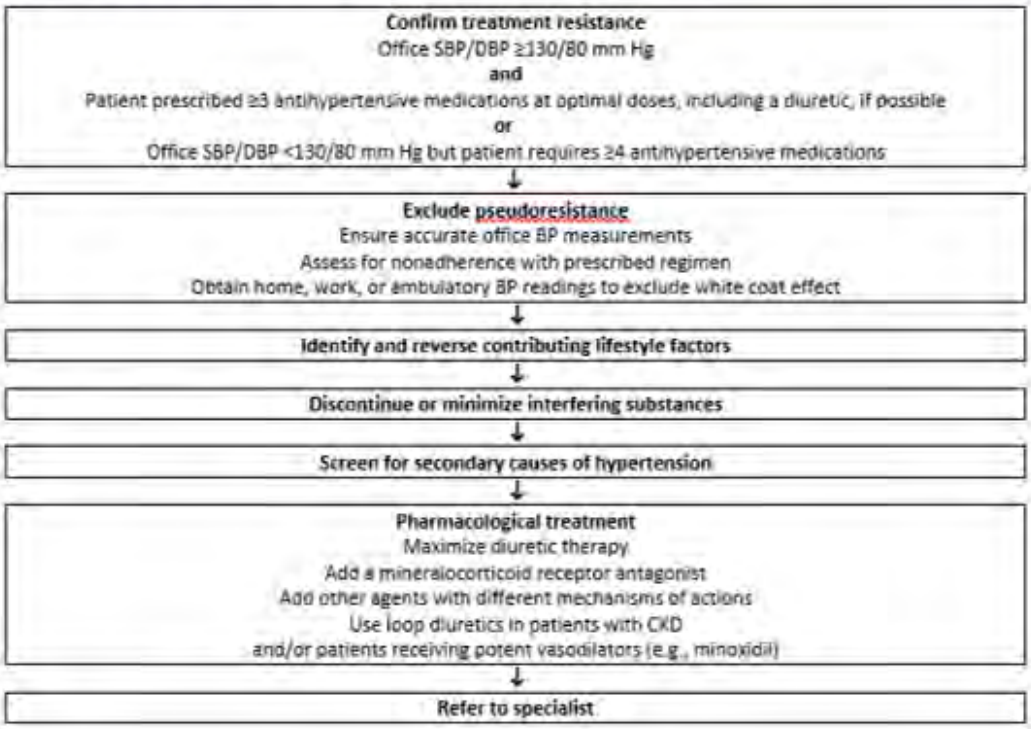
## Racial and Ethnic Differences in Treatment

| COR | LOE | Recommendations for Race and Ethnicity |
|---|---|---|
| I | B-R | In black adults with hypertension but without HF or CKD, including those with DM, initial antihypertensive treatment should include a thiazide-type diuretic or CCB. |
| I | C-LD | Two or more antihypertensive medications are recommended to achieve a BP target of less than 130/80 mm Hg in most adults with hypertension, especially in black adults with hypertension. |

### 1.4l Resistant Hypertension

## Resistant Hypertension: Diagnosis, Evaluation, and Treatment

**Figure 10. Resistant Hypertension: Diagnosis, Evaluation, and Treatment**



# Section 1.4 HTN Management for Patients with Common Conditions

## 1.4m Masked and White Coat Hypertension

### Masked and White Coat Hypertension

| COR | LOE | Recommendations for Masked and White Coat Hypertension |
|---|---|---|
| IIa | B-NR | In adults with an untreated SBP greater than 130 mm Hg but less than 160 mm Hg or DBP greater than 80 mm Hg but less than 100 mm Hg, it is reasonable to screen for the presence of white coat hypertension by using either daytime ABPM or HBPM before diagnosis of hypertension. |
| IIa | C-LD | In adults with white coat hypertension, periodic monitoring with either ABPM or HBPM is reasonable to detect transition to sustained hypertension. |
| IIa | C-LD | In adults being treated for hypertension with office BP readings not at goal and HBPM readings suggestive of a significant white coat effect, confirmation by ABPM can be useful. |
| IIa | B-NR | In adults with untreated office BPs that are consistently between 120 mm Hg and 129 mm Hg for SBP or between 75 mm Hg and 79 mm Hg for DBP, screening for masked hypertension with HBPM (or ABPM) is reasonable. |
| IIb | C-LD | In adults on multiple-drug therapies for hypertension and office BPs within 10 mm Hg above goal, it may be reasonable to screen for white coat effect with HBPM (or ABPM). |
| IIb | C-EO | It may be reasonable to screen for masked uncontrolled hypertension with HBPM in adults being treated for hypertension and office readings at goal, in the presence of target organ damage or increased overall CVD risk. |
| IIb | C-EO | In adults being treated for hypertension with elevated HBPM readings suggestive of masked uncontrolled hypertension, confirmation of the diagnosis by ABPM might be reasonable before intensification of antihypertensive drug treatment. |

# Section 1.5 Auscultatory-Palpatory Technique for BP Measurement

**Best Practice for Blood Pressure Measurement Using Auscultatory-Palpatory Technique**

1. Properly position patient
   a. Back supported
   b. Feet flat on the floor
   c. Brachial artery at heart level
2. Size and place the cuff-the bladder of the cuff should cover 80-100% of the circumference of the arm
3. Palpate the radial pulse
4. Inflate the cuff slowly until the radial pulse disappears: that is the Estimated Systolic Pressure (ESP)
5. Add 20-30 points to the ESP to calculate the Maximum Inflation Level (MIL)
6. Deflate the cuff, wait 15-30 seconds for the artery to recover
7. Place the stethoscope over the brachial artery
8. Inflate the cuff to the MIL and take the blood pressure
9. Take additional readings if abnormal

**Alternate Method Using One Step Technique from Step 3:**

3. Palpate the radial pulse holding the stethoscope between your fingers
4. Inflate the cuff slowly until the radial pulse disappears: that is the Estimated Systolic Pressure (ESP)
5. Continue to inflate 20-30 points above the ESP while moving the stethoscope to the brachial artery and take the blood pressure
6. Take additional readings if abnormal

# Section 1.6 Automated Blood Pressure Cuff Guidelines

## Automated Blood Pressure Cuff Guidelines

Check for validation of the equipment at www.dableducational.org

1. **Properly position patient**
   a. Back supported
   b. Feet flat on the floor
   c. Brachial artery at heart level
2. **Select and position cuff**
   a. Bladder of the cuff 80-100% of arm circumference
   b. Center of bladder over brachial artery
   c. Cuff placed one inch above the bend of the arm
3. **Have patient sit still during measurement**
4. **Do not talk during measurement**
5. **Avoid use of automated equipment if patient has irregular heart rhythm**
6. **If results of automated cuff are abnormal, recheck with manual cuff**

# Section 1.7 Measuring Orthostatic Blood Pressure

## Measuring Orthostatic Vital Signs Guidelines

**Equipment:**

- Stethoscope
- Sphygmomanometer
- Watch with a secondhand

**Procedure:**

1. Have patient lie supine for five minutes
   - Take blood pressure in right arm unless otherwise indicated
   - Take an apical heart rate for 60 seconds
2. Have patient stand
   - Measure blood pressure and heart rate immediately
   - Ask patient if he/she is experiencing any lightheadedness or dizziness
   - Use assistance if necessary for patient safety
3. Measure blood pressure and heart rate again at 2-5minutes after standing
   - If patient is unable to stand, measure from lying to sitting, but sensitivity of the test is reduced

**Evaluation:**

1. Subtract standing values from sitting or lying values
2. A decline of >20mmHg in systolic or >10mmHgin diastolic BP = orthostatic hypotension
3. Heart rate may increase 15-30 beats per minute (normal 10-15 bpm upon rising)
   - Minimal heart response may indicate baroreceptor reflex impairment
   - Greater than 20 beats per minute increase may indicate volume depletion

It may be difficult to determine if the patient is hypotensive when checking only one point in time. If the patient does not show evidence of orthostatic hypotension during the falls assessment, but complains of lightheadedness or dizziness, perform the measurements when the patient complains or after meals.

REFERENCES: *Sclater A, Alagiakrishnan K. Orthostatic hypotension: A primary care primer for assessment and treatment. Geriatrics 2004;59(Aug):22-27*

*The Falls Management Program: A Quality Improvement Initiative for Nursing Facilities. February2010. Rockville, MD. Agency for Healthcare Research and Quality.*

http://www.ahrq.gov/professionals/systems/long-term-care/resources/injuries/fallspx/index.html

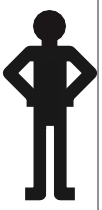
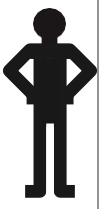
# Section 1.7 Measuring Orthostatic Blood Pressure

## 1.7a Orthostatic Blood Pressure Screening Tool

Measuring Orthostatic Blood Pressure Screening Tool

1. Have the patient lie down for 5 minutes.
2. Measure blood pressure and pulse rate.
3. Have the patient stand.
4. Repeat blood pressure and pulse rate measurements after standing 1 and 3 minutes.

***A drop in bp of ≥20 mm Hg, or in diastolic bp of ≥10 mm Hg, or experiencing lightheadedness or dizziness is considered abnormal.***

| Position | | Time | BP | Associated Symptoms |
|---|---|---|---|---|
| Lying Down |  | 5 Minutes | BP____/____<br>HR _____ | |
| Standing |  | 1 Minute | BP____/____<br>HR _____ | |
| Standing |  | 3 Minutes | BP____/____<br>HR _____ | |

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

STEADI Stopping Elderly Accidents, Deaths & Injuries

For relevant articles, go to: **www.cdc.gov/injury/STEADI**

**Order #144561**

# Section 1.8 Hypertension Medications, Pricing and Pharmacies

## Hypertension Medications, Pricing and Pharmacies

| Medication | Dose | Walmart | Hannaford | CVS | MMC | Target | Walgreens |
|---|---|---|---|---|---|---|---|
| Price with free coupon | | | | | | | |
| Lisinopril/HCTZ | 20 mg/12.5mg (30ct) | $ 8.00 | $ 3.11 | $ 8.88 | $ 3.11 | $ 8.88 | $ 11.43 |
| HCTZ | 25 mg (30ct) | $ 4.00 | $ 3.16 | $ 5.02 | $ 3.16 | $ 5.02 | $ 6.64 |
| Chlorthalidone | 25 mg (30ct) | $ 16.97 | $ 15.90 | $ 16.48 | $ 15.90 | $ 16.50 | $ 18.20 |
| Indapamide | 1.25mg (90ct) | $ 10.00 | $ 16.01 | $ 30.13 | $ 16.01 | $ 30.13 | $ 27.26 |
| Lisinopril | 20 mg (30ct) | $ 4.00 | $ 5.12 | $ 9.68 | $ 5.12 | $ 9.68 | $ 14.09 |
| Captopril | 25 mg (90ct) | $ 45.35 | $ 43.67 | $ 46.86 | $ 43.67 | $ 46.86 | $ 47.35 |
| Benazepril | 20 mg (30ct) | $ 4.00 | $ 4.02 | $ 10.52 | $ 4.02 | $ 10.52 | $ 15.66 |
| Losartan | 100 mg (30ct) | $ 9.00 | $ 11.04 | $ 25.97 | $ 11.04 | $ 25.97 | $ 30.28 |
| Amlodipine | 5 mg (30ct) | $ 9.00 | $ 6.29 | $ 17.25 | $ 6.29 | $ 17.24 | $ 21.23 |
| Nifedipine ER | 30 mg (30ct) | $ 16.10 | $ 15.00 | $ 15.90 | $ 15.00 | $ 15.90 | $ 19.12 |
| Felodipine ER | 5 mg (30ct) | $ 18.59 | $ 11.64 | $ 15.25 | $ 11.64 | $ 15.25 | $ 18.24 |
| Spironolactone | 25 mg (30ct) | $ 9.25 | $ 5.02 | $ 9.68 | $ 5.02 | $ 9.68 | $ 9.73 |
| Atenolol | 50 mg (30ct) | $ 4.00 | $ 2.66 | $ 8.98 | $ 2.66 | $ 8.98 | $ 9.83 |
| Metoprolol | 25 mg (60ct) | $ 4.00 | $ 6.95 | $ 11.24 | $ 6.95 | $ 11.24 | $ 11.51 |
| Carvedilol | 25 mg (60ct) | $ 4.00 | $ 5.46 | $ 27.27 | $ 5.46 | $ 27.27 | $ 35.72 |
| Metoprolol ER | 25 mg (30ct) | $ 9.00 | $ 12.78 | $ 15.49 | $ 12.78 | $ 15.49 | $ 18.89 |
| Spironolactone/HCT | 25/25 mg (30ct) | $ 18.27 | $ 23.10 | $ 18.95 | $ 23.10 | $ 18.95 | $ 21.20 |
| Terazosin | 5 mg (90ct) | $ 30.38 | $ 12.26 | $ 31.46 | $ 12.26 | $ 31.46 | $ 45.47 |
| Doxazosin | 4 mg (30ct) | $ 9.00 | $ 13.61 | $ 15.85 | $ 13.61 | $ 15.85 | $ 16.45 |
| Prazosin | 1 mg (30ct) | $ 13.99 | $ 13.50 | $ 14.06 | $ 13.50 | $ 14.06 | $ 14.03 |
| Hydralazine | 25 mg (90ct) | $ 4.00 | $ 12.41 | $ 16.54 | $ 12.41 | $ 16.54 | $ 20.85 |
| Minoxidil | 2.5 mg (60ct) | $ 15.29 | $ 14.75 | $ 11.32 | $ 14.75 | $ 11.32 | $ 20.51 |
| Clonidine | 0.1 mg (30ct) | $ 3.53 | $ 5.31 | $ 6.36 | $ 5.31 | $ 6.36 | $ 9.70 |

Updated April, 2020

# Section 1.9 Pediatric Blood Pressures Requiring Further Evaluation

**Pediatric Blood Pressure**
**Values Requiring Further Evaluation According to Age and Gender**
Blood Pressure, mm Hg

| | BOYS | | GIRLS | |
|---|---|---|---|---|
| AGE | SYSTOLIC | DIASTOLIC | SYSTOLIC | DIASTOLIC |
| 1 | 98 | 52 | 98 | 54 |
| 2 | 100 | 55 | 101 | 58 |
| 3 | 101 | 58 | 102 | 60 |
| 4 | 102 | 60 | 103 | 62 |
| 5 | 103 | 63 | 104 | 64 |
| 6 | 105 | 66 | 105 | 67 |
| 7 | 106 | 68 | 106 | 68 |
| 8 | 107 | 69 | 107 | 69 |
| 9 | 107 | 70 | 108 | 71 |
| 10 | 108 | 72 | 109 | 72 |
| 11 | 110 | 74 | 111 | 74 |
| | | | | |
| ≥13 | 120 | 80 | 120 | 80 |

These values represent the lower limits for abnormal blood pressure ranges according to age and gender. Any blood pressure readings equal to or greater than these values represent blood pressures in the elevated, stage 1 hypertensive, or stage 2 hypertensive range and should be further evaluated by a physician.

Pediatrics in Review July 2019, 40 (7) 35, 4-358

**Order #145020**

# Section 1.10 Poster: Positioning Your Patient for an Accurate BP Reading

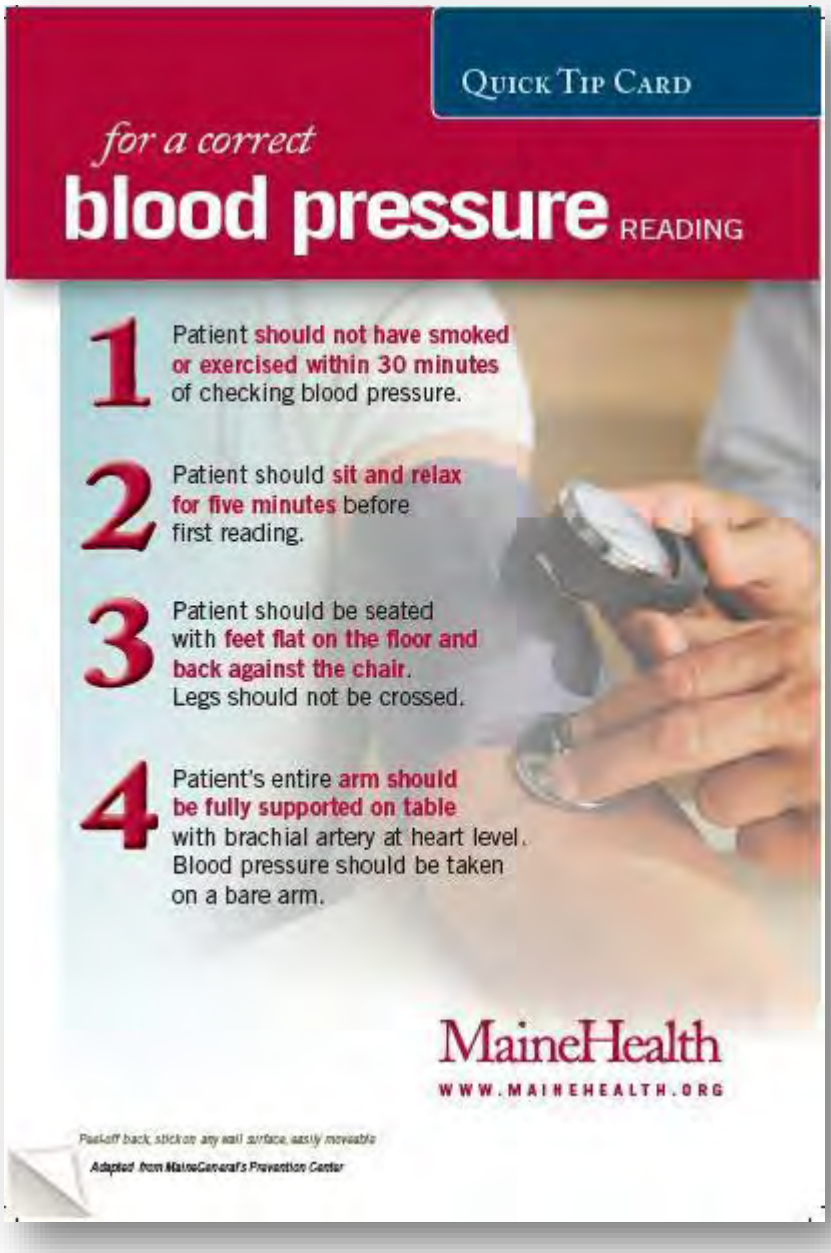
**Poster (actual size is 11 x 17 inches)**


**Order #145053**

# Section 1.11 Quick Tip Card for a Correct Blood Pressure Reading

This Quick Tip card is an easily removable sticker that can be posted quickly and conveniently anywhere you need it.

(Actual size is 5 ½ x 8" inches.)




**Order #148185**

# Section 2 OPERATIONAL RESOURCES

## Section 2.1 Hypertension Champion

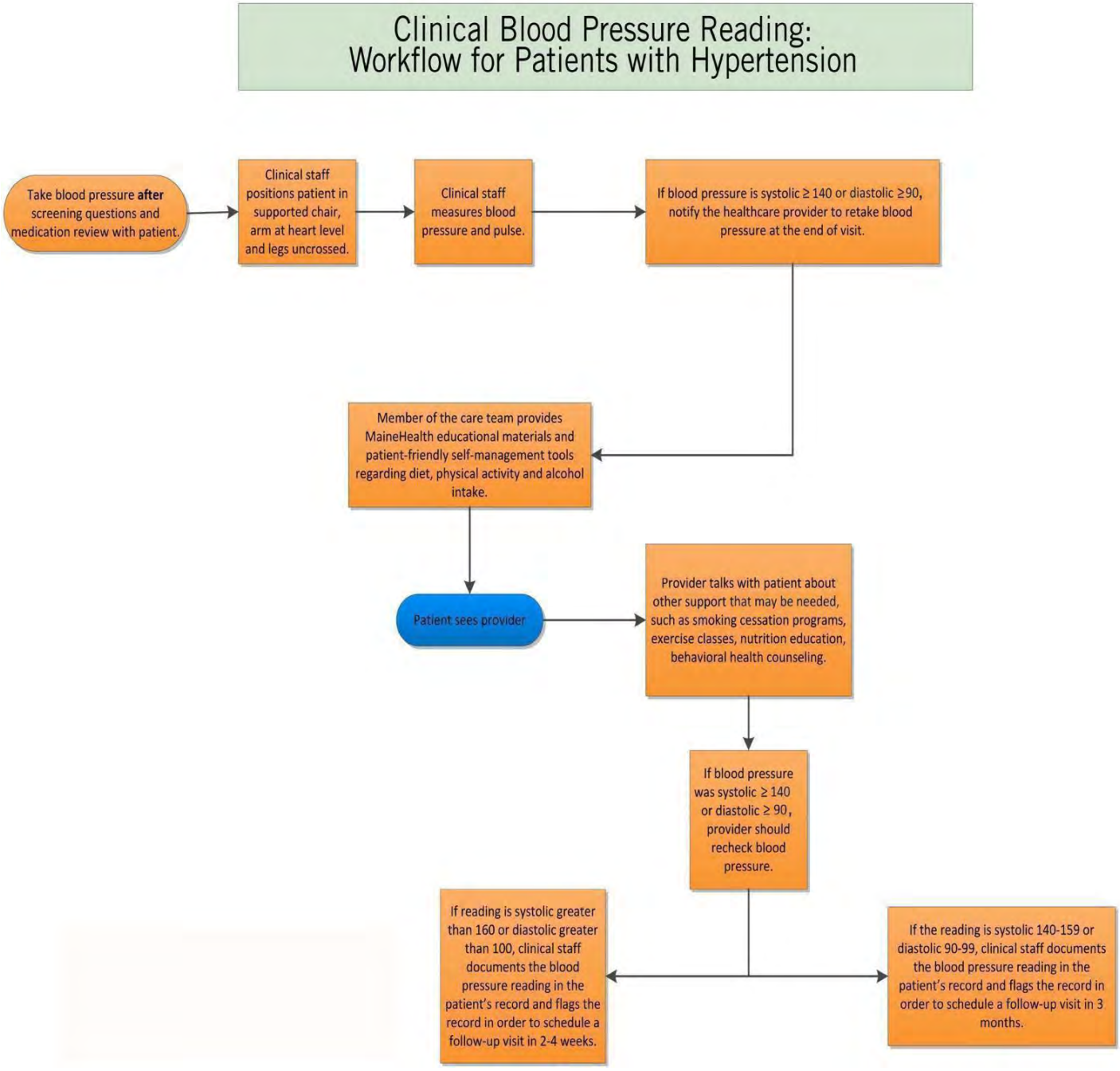
### Does Your Practice have a Hypertension Champion?

Consider designating a clinical staff member to be the Hypertension Champion in your practice.

Responsibilities could include

- Enthusiastically promote evidenced-based improvement efforts and mobilize resources
- Monitoring your practice's hypertension metrics and share results with the care team
- Provide or organize staff training and annual competency in blood pressure technique (see MaineHealth Training Resources, section 4.1)
- Blood Pressure equipment maintenance

## Section 2.2 Clinical Workflow for Patients with Hypertension



# Section 2.3 Group Visit Operational Guide

**Group Visit: Operational Guide**

This guide provides information about how to plan a group visit to provide care for patients whose hypertension is not in control. If you are interested in having group visits at your practice, below is some information on the scope of visit.
Please also see the group visit resources included in the toolkit.

**Benefits of Group Visits:**

- Helps to develop trusting relationships between practice team and patient
- Achieves hands-on care
- Provides access to the provider
- Helps motivate behavior change and improve outcomes
- Improves patient care
- Educates patients – participants receive health assessments, learn self- care skills, participate in facilitated discussions and develop a support network among people who are struggling with similar problems
- Frees up time for clinic to use for other billable activities

**1. Which patients are targeted?**

- Adults with uncontrolled hypertension who are looking to make lifestyle modifications
- Adults with uncontrolled hypertension and other risk factors and/or chronic diseases

**2. Who is on the team?**

Team that leads the group includes:

- A nurse or medical assistant
- Program administrator (supplied by MaineHealth Cardiovascular Health Team)
- A clinician (MD, DO, NP, PA)
- Behavioral health clinician -for people who are having difficulty reaching their goals

*Note: MaineHealth Cardiovascular Health Team can help find instructors for modules such as a dietician, exercise physiologist, behavioral health specialist, and/or health coach.*

Continued >

# Section 2.3 Group Visit Operational Guide, pg.2

**3. What is offered at the visits?**

- Blood pressure readings, hypertension education, adherence to medication, lifestyle modification education, nutrition, exercise, stress management
- 4 Session Topics:
    1. Hypertension; hypertension linked to other chronic disease
    2. Nutrition: Food log; reading a food label
    3. Movement: Daily exercises
    4. Stress management; relaxation methods
- Goal setting

**4. How often are visits?**

- 4 sessions, 1 or 2 per month

**5. Where is the visit held?**

- In the practice, if space allows. The ideal size for a group is between 8-12 people.

**6. How to bill for group visits?**

- As long as the physician briefly consults each patient privately at the group visit, practices would bill for a one-on-one visit, using the 99213 or 99214 charge as long as all essential criteria are met. Physicians should select the code based on the work that is done while seeing each individual patient, taking the history, exam and decision making into consideration. For more information on billing, contact your respective coding or auditing staff.

# Section 2.3 Group Visit Operational Guide

## 2.3a Task List and Timeline Checklist

### Task List and Timeline

| Date | Action | Responsibility | Done | Comments |
|---|---|---|---|---|
| *Two months before first session* | | | | |
| | Meet with leadership | | | |
| | Determine goals and measurement | | | |
| | Team meeting (1 hour or less) | | | |
| | Determine type of group visit (ex: frail elderly) | | | |
| | Discuss plans and team member roles | | | |
| | Review agenda and letters | | | |
| | Schedule room (2-hour block) | | | |
| | Schedule provider (2-hour block) | | | |
| | Schedule RN (2-hour block) | | | |
| | Schedule MA for vitals during "break" | | | |
| | Obtain list of potential participants | | | |
| | Review list for inappropriate invitees | Provider | | |
| *One month before first session* | | | | |
| | Send out invitation letters to 40-50 people | | | |
| | Call all patients who received letter (2 weeks after mailing) | RN | | |
| | Team meeting (45 minutes or less) | | | |
| | Review agenda and roles, attendees, patient notebooks | | | |
| | Arrange refreshments, if desired | | | |
| | Create records for patients (folder/notebook for 25 per group) | | | |
| *One week before* | | | | |
| | Create roster of attendees and sign-in sheet | | | |
| | Review charts for potential immediate needs | | | |
| | Call attendees to remind them of their appointment | | | |
| *Day of Visit* | | | | |
| | Set up room (horseshoe) | | | |
| | Materials to room (patient folders, coffee, BP cuffs, stethoscopes, flip chart, nametags, tissues) | | | |
| | Be in room early to greet patients | | | |
| | Hold visit | | | |
| | Debrief after visit: What went well? What didn't go as well? | | | |
| *Monthly* | Plan next group visit | | | |

# Section 2.3 Group Visit Operational Guide

### 2.3b Staff Roles

Each team should review the tasks and roles and determine how best to use their team. The result might look something like this:

| Duties | Day of Group Visit |
|---|---|
| **LPN/MA**<br>• **Coordinate planning of the group visit with the team**<br>• **Coordinate materials and information for the group visit**<br>• **Pull charts 3-5 days before group visit**<br>• **Remind primary care provider about the upcoming group visit** | • **Check room set-up**<br>• **Take charts and supplies to room**<br>• **Perform vitals, exams and immunizations as needed**<br>• **Data entry into registry if appropriate**<br>• **As agreed on by team, perform chart review**<br>• **After visit, follow up with patients as needed**<br>• **Give results of chart review to provider** |
| **PSR**<br>• **Reminder phone calls to patients**<br>• **Check on room reservation**<br>• **Make sure name tags are ready** | • **Prepare charts and labels.**<br>• **Print out registries for patients, if appropriate**<br>• **Complete billing information as needed** |
| **MD/DO/NP/PA**<br>• **Participate in planning of the visit with the team, following suggestions of participants**<br>• **Review charts, identify problems for review with individual patients** | • **Conduct discussion and group visit**<br>• **During break, review individual needs and make 1:1 individual appointments for after the visit**<br>• **Document all visits** |

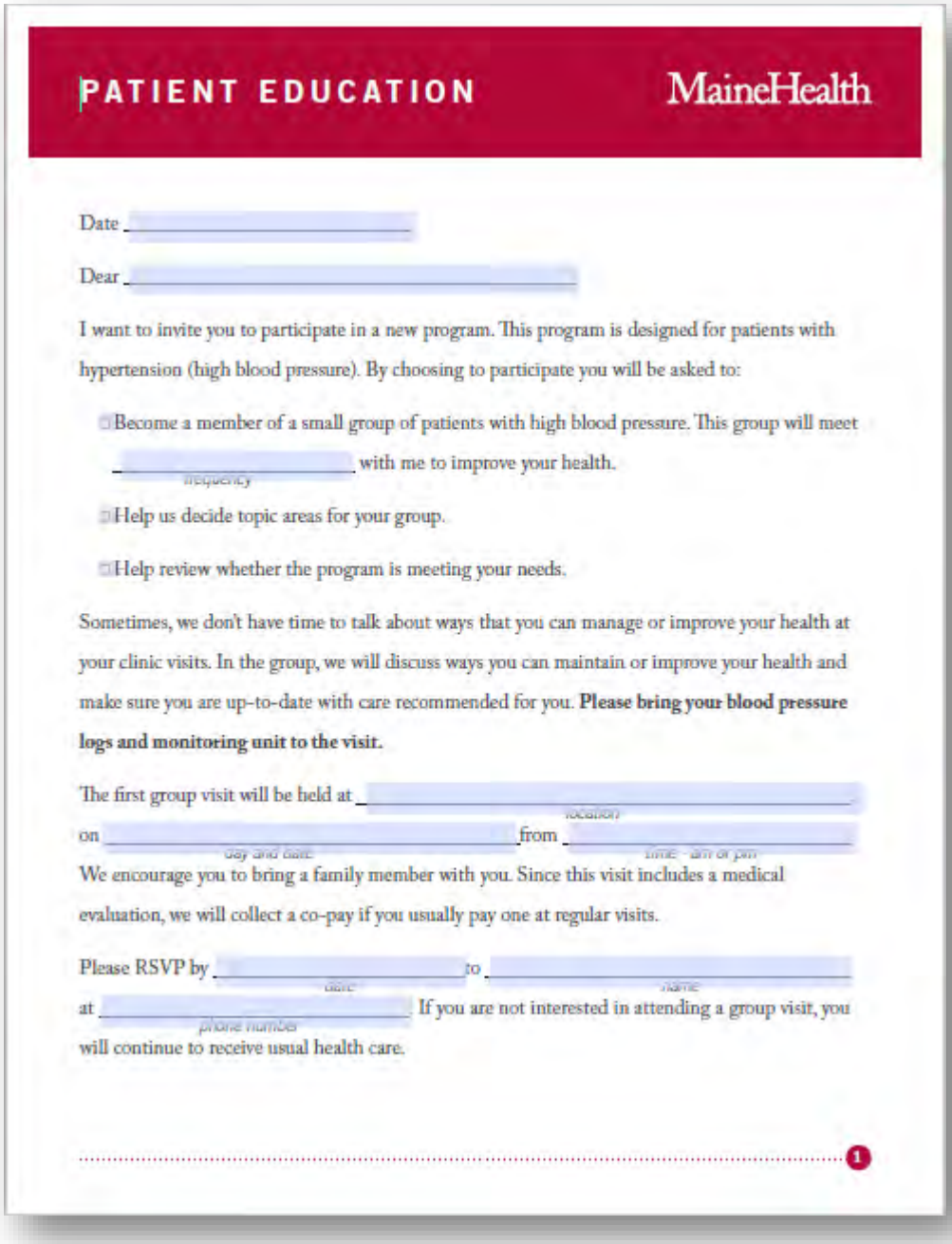
**Others: Pharmacist, Behavioral Health Specialist, Dietitian**

It is sometimes helpful to provide access to other specialists during the group visits. It is important that the team adequately brief anyone brought into the group visit so they adhere to the high degree of interactivity encouraged in the group. Discourage these guest presenters from lecturing to the patients or providing them with excessive prepared materials.

A good model for these presentations is for the physician or presenter to have the group list all the questions they have right before the presenter speaks. If these are listed on a flip chart, they can be checked off as they are discussed. The presenter can suggest topics that the patients may not be aware of if they are not included on the list

# Section 2.3 Group Visit Operational Guide

### 2.3c Patient Letter Template



PATIENT EDUCATION MaineHealth

Date _____

Dear _____

I want to invite you to participate in a new program. This program is designed for patients with hypertension (high blood pressure). By choosing to participate you will be asked to:

- ☐ Become a member of a small group of patients with high blood pressure. This group will meet _____ (frequency) with me to improve your health.
- ☐ Help us decide topic areas for your group.
- ☐ Help review whether the program is meeting your needs.

Sometimes, we don't have time to talk about ways that you can manage or improve your health at your clinic visits. In the group, we will discuss ways you can maintain or improve your health and make sure you are up-to-date with care recommended for you. **Please bring your blood pressure logs and monitoring unit to the visit.**

The first group visit will be held at _____ (location)
on _____ (day and date) from _____ (time - am or pm)
We encourage you to bring a family member with you. Since this visit includes a medical evaluation, we will collect a co-pay if you usually pay one at regular visits.

Please RSVP by _____ (date) to _____ (name)
at _____ (phone number) If you are not interested in attending a group visit, you will continue to receive usual health care.

1

For this interactive letter, click on the hyperlink below to download, customize and print for each patient:
https://home.mainehealth.org/2/MH/MHPatientEducation/_layouts/15/guestaccess.aspx?guestaccesstoken=A1uMK9J0XGsvYJNxBAqP31FN%2b1hva4jglmlxZfjhK50%3d&docid=2_125f5cac2cd784a27a98eef7d2d9be010&rev=1

# Section 2.3 Group Visit Operational Guide

## 2.3d Agenda

### Agenda for First Session – Introduction to Group Visits

**15 minutes — Introductions/Welcome**

- Physician opens the session.
- All team members present are introduced.
- Introductions follow around the room, with sharing included. Example: Give your name as you would like to be called, and share your favorite activity.

**30 minutes — Group Visits**

- What are they?
- Why are we doing it?
- What should you expect?
- Questions from the group.
- Group visit norms.
- Review folder/notebook.

**15 minutes — Break**

- Physician starts on one side, Medical Assistant on other.
- Take blood pressure, ask about specific concerns for the day (look for patients who need 1:1 visits).
- Refill meds.

**15 minutes — Questions and Answers**

- Hypertension 101. Ask for questions the group has about hypertension and the effects on their health.

**15 minutes — Planning**

- Topic for next month. Announce time and date.

**30 minutes — 1:1 visits with provider and nurse as needed**

More >

# Section 2.3 Group Visit Operational Guide, continued

## 2.3d Agenda for Subsequent Visits

**15 minutes — Introductions/Welcome**

- Physician opens the session.
- All team members present are introduced.
- Introductions follow around the room, with sharing included.

**30 minutes — Topic of the Day**

- Physician and nurse provide information, interacting with the participants whenever possible.
- Some suggestions to make the session interactive include asking:
- "How long have you had Hypertension?"
- "What are your biggest struggles with Hypertension?"
- "How are you dealing with this situation?"
- "What have you heard about Hypertension?"
- Always intersperse the presentation with questions from the group.

**15 minutes — Break**

- Physician starts on one side, nurse on other.
- Take blood pressure, ask about specific concerns for the day (look for patients who need 1:1 visits).
- Refill meds.

**15 minutes — Questions and Answers**

- Ask for any questions the group has about their health, the visit, recent topics in the news, etc.

**15 minutes — Planning and Closing**

- Discuss topic for next month.
- Thank everyone for coming.
- Providers proceed to 1:1 visits.

**30 minutes — 1:1 visits with provider and nurse**

**30 minutes — Provider discretionary time**

# Section 2.3 Group Visit Operational Guide

## 2.3e Visit Norms

Group Visit: Norms

**We will...**

1. Encourage everyone to participate.
2. State our opinions openly and honestly.
3. Ask questions if we don't understand.
4. Treat one another with respect and kindness.
5. Listen carefully to others.
6. Respect information shared in confidence.
7. Try to attend every meeting.
8. Be prompt, so meetings can start and end on time.
9. Other? (Ask group for suggestions)

# Section 2.3 Group Visit Operational Guide

## 2.3f Vital Signs Record

Group Visit: Vitals Record

| DATE | BLOOD PRESSURE | PULSE | QUESTIONS |
|---|---|---|---|
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# Section 2.4 Excellence in Hypertension Control Award

## Excellence in Hypertension Control Award

This award is given to the provider and practice team who have met the following to achieve hypertension control among patients:

1. Reached the target – 74.9% of all patients with hypertension are under control (<140/90)

2. Received accurate blood pressure measurement training and passed the competency testing — all clinical staff

3. Distributed education materials to your patients available on the MaineHealth educational materials website

**If you have met all three, you deserve an**
Excellence in Hypertension Control Award!

Contact us to receive your recognition:

- Certificate to hang in your office

Contact Prevention@mainehealth.org

# Section 2.5 Ordering Educational Materials

To order **Provider Resources** (see samples in sections 1 and 4), email printservices@mmc.org with the following information:

- Reorder # (found at the lower left corner of the page)
- Quantity you'd like
- Name and mailing address for shipment

**Provider Resources:**

- Measuring Orthostatic Blood Pressure
- Pediatric Blood Pressure Values for Further Evaluation
- What's Wrong with this Picture? poster
- Best Practice for Blood Pressure Measurement tip card
- Observation Checklist for Blood Pressure Competency

To order **Patient Education Materials** (see samples in Section 3), go to:
*https://mainehealth.org/healthcare-professionals/education-and-training/patient-education*

**Patient Education Materials:**

- Blood Pressure Self-Monitoring Apps
- Blood Pressure Tracking Wallet Card
- Come Prepared for a Correct Blood Pressure Reading
- How Can I Lower My Blood Pressure?
- Improving Cardiovascular Health Guide
- Measuring Your Blood Pressure at Home
- My Self Care Action Plan
- The DASH Eating Plan

# Section 3 PATIENT EDUCATION

## Section 3.1 How Can I Lower My Blood Pressure?

PATIENT EDUCATION MaineHealth

### How Can I Lower My Blood Pressure?

| If I Do This to Take Good Care of Myself: | It Will Lower My Systolic Blood Pressure (top number) by this much: |
|---|---|
| Lose weight if I'm overweight | 5-20 points per 20 pounds<br>Example: If you weigh 180 pounds and your Blood Pressure (BP) is 160/60, and you lose 20 pounds to weigh 160 pounds, your BP could drop to as low as 140/60. |
| Follow the DASH eating plan. Ask your healthcare team for a copy. | 8-14 points |
| Lower my sodium (salt) intake to 1500-2300 mg per day. | 2-8 points |
| Exercise for 30 minutes most days of the week. | 4-9 points |
| Keep my alcohol intake to no more than:<br>• 1 drink a day if I'm female<br>• 2 drinks a day if I'm male | 2-4 points |

1

144390 4/20

**Order #144390**

## Section 3.2 The DASH Eating Plan, page 1 of 2

PATIENT EDUCATION MaineHealth

### The DASH Eating Plan

| Food Group | Number of Servings | What Does This Look Like? |
|---|---|---|
| Grains | 6-8 servings each day | **1 serving:**<br>• 1 slice of bread **OR**<br>• 1 ounce (about 1 cup) of dry cereal **OR**<br>• ½ cup cooked cereal, rice or pasta (This is about the size of a tennis ball) |
| Meats, Poultry, and Fish | 2 servings each day | **1 serving:**<br>• 2 to 3 ounces of cooked lean meat, poultry or fish (This is about the size of a deck of cards) |
| Vegetables | 4-5 servings each day | **1 serving:**<br>• 1 cup of raw leafy vegetables (This is about the size of a small fist) **OR**<br>• ½ cup of chopped or cooked vegetables **OR**<br>• ½ cup of vegetable juice |
| Fruit | 4-5 servings each day | **1 serving:**<br>• 1 medium fruit (This is about the size of a baseball) **OR**<br>• ½ cup chopped, cooked or canned fruit **OR**<br>• ½ cup juice **OR**<br>• ¼ cup dried fruit |

Continued 1

## Section 3.2 The DASH Eating Plan, page 2 of 2

| | | |
|---|---|---|
| **Low-Fat or Fat-Free Dairy Products** | 2-3 servings each day | **1 serving:**<br>• 1 cup (8 ounces) of fat-free or low-fat milk or yogurt **OR**<br>• 1 ½ ounces fat-free or low-fat cheese (This is about the size of 6 dice) |
| **Fats and Oils** | 2-3 servings each day | **1 serving:**<br>• A teaspoon of soft margarine (This is about the size of one die) |
| **Sodium** | Less than 2,300 mg each day | 2,300 mg = 1 teaspoon of salt |
| **Nuts, Seeds, and Legumes** | 4-5 servings each **week** | **1 serving:**<br>• ½ cup cooked dry beans **OR**<br>• 2 tablespoons of peanut butter (This is about the size of a golf ball) |
| **Sweets and Added Sugar** | 5 or less servings each **week** | **1 serving:**<br>• 1 tablespoon of jelly or jam **OR**<br>• 1/2 cup of sorbet **OR**<br>• 1 cup of lemonade **OR**<br>• 1 ounce of chocolate (30g) (This is about the size of a packet of dental floss) |

**The DASH eating plan doesn't require special foods. Here are the basics:**

1. Eat vegetables, fruits, and whole grains.
2. Include fat-free or low-fat dairy products, fish, poultry, beans, nuts, and vegetable oils
3. Limit sugar-sweetened beverages and sweets.
4. Choose foods low in sodium (salt).
5. Limit foods that are high in trans fat and saturated fat, such as fatty meats, full-fat dairy products, and tropical oils such as coconut, palm kernel, and palm oils.
6. Eat foods high in potassium, calcium, magnesium, fiber, and protein.

2

145907 5/20

**Order #145907**

# Section 3.3 Measuring Your Blood Pressure at Home, page 1 of 2

PATIENT EDUCATION MaineHealth

## Measuring Your Blood Pressure at Home

**It is important to measure your blood pressure to know if it is high.**

- When blood pressure is high, it starts to damage the blood vessels, heart and kidneys. It can lead to a heart attack, stroke, kidney disease and other problems. Most people with high blood pressure don't know they have it because there are usually no symptoms.
- A home blood pressure monitor makes it easy to keep track of your blood pressure.
- You can check your blood pressure at different times and in different places (such as at home and at work) during the day.
- Checking your blood pressure at home or work helps you partner with your doctor in managing your blood pressure. Checking it at home does not replace having it checked by your doctor.

### How do I choose the best blood pressure monitor?

Look for monitors that have as many of the things listed in the "good" column as possible.

| Good | Not as good |
|---|---|
| ☐ Automated | ☐ Manual |
| ☐ Upper arm cuff | ☐ Wrist or finger cuff |
| ☐ Properly sized cuff | ☐ Too large or too small cuff |
| ☐ Memory storage capacity | ☐ No memory storage |
| ☐ Printing ability | ☐ No printer |
| ☐ Ability to upload readings to a computer or other electronic device | ☐ No ability to upload readings to computer or other electronic device |
| ☐ Accuracy checked by your doctor after purchase | ☐ Using a monitor without consulting clinician |

*Continued* 1

# Section 3.3 Measuring Your Blood Pressure at Home, page 2 of 2

## For an up-to-date listing of validated blood pressure cuffs:

1. Visit www.dableducational.org.
2. Click on "devices".
3. Then click on "table" under "upper arm devices for self-measurement of blood pressure".

## What size cuff should I buy?

To measure your arm, the cuff should be positioned at least 1 inch above the bend of your arm at your elbow. Then take the measurement around the top edge of the cuff.

Find your size in the list on the left and choose the size cuff listed in the column on the right.

| Adult arm circumference | Recommended cuff size |
|---|---|
| 22-26 cm / 8.7-10.2 in | 12 x 22 cm (small adult) |
| 27-34 cm / 10.6-13.4 in | 16 x 30 cm (adult) |
| 35-44 cm / 13.8-17.3 in | 16 x 36 cm (large adult) |
| 45-52 cm / 17.7-20.5 in | 16 x 42 cm (adult thigh) |
| More than 52 cm / 20.5 in | Wrist cuff |

## Check your insurance coverage before buying a cuff:

Medicare does not cover home blood pressure equipment, but some private insurance plans do. Call your insurance company to find out if your plan covers blood pressure equipment.

## What should I do to get the best reading?

For the most accurate reading do all of the following:

1. No caffeine, tobacco or exercise for 30 minutes before reading.
2. Empty your bladder.
3. Sit quietly for 5 minutes before the reading.
4. Sit in a chair with back support.
5. Place your feet flat on the floor.
6. Set the cuff on the table. Place your upper, bare arm in the cuff so your arm is resting at heart level.
7. Position cuff according to manufacturer's instructions.
8. Relax and don't talk during the measurement.



144301 8/20

**Order # 144301**

# Section 3.4 Blood Pressure Self-Monitoring Apps

PATIENT EDUCATION MaineHealth

## Blood Pressure Self-Monitoring Apps

There are many free blood pressure tracking apps available. See below for 2 that are easy to use and have received good ratings. You can use their logos to recognize them in the app store on your phone.

### For your iPhone, iTouch, iPad, and/or Android

**Blood Pressure Companion**

**Operating System:** Available for Apple and android users
**Cost:** Free (look for the free version)

**Functions:**

- Monitor your blood pressure closely and view visuals with words, charts and histograms.
- When you find your blood pressure out of range, you can take quick actions to find the reason and keep it from getting higher.
- Share measurements conveniently with your doctors with this app.

**Blood Pressure — My Diary**

**Operating System:** Available for Apple and android users
**Cost:** Free (look for the free version)

**Functions:**

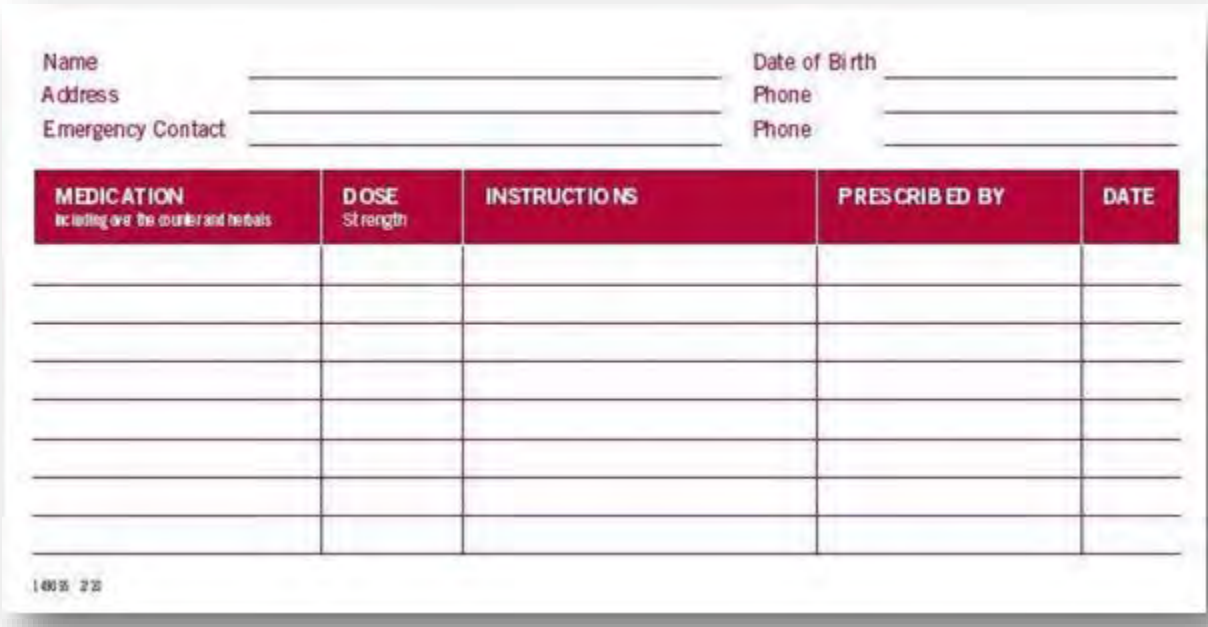
- A personal blood pressure, weight and glucose monitor.
- Data visuals, statistics reporting and medication tracking (both oral and injection).
- Left/right arm tracking.
- Body position tracking.
- Email Import/Export that allows you to communicate with healthcare provider (charts included in emails and pdf files).
- Charts that show a visual trend of vital signs and blood pressure warning signs.
- Syncs data.

1

146054 5/20

**Order # 146054**

# Section 3.5 Blood Pressure Wallet Size Log

Name _____ Date of Birth _____

Address _____ Phone _____

Emergency Contact _____ Phone _____

| MEDICATION including over the counter and herbals | DOSE Strength | INSTRUCTIONS | PRESCRIBED BY | DATE |
|---|---|---|---|---|
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148095 2/20

**Order #148095**

# Section 3.6 Come Prepared for a Correct Blood Pressure Reading

To prevent or control high blood pressure:

- Exercise–do things that raise your heart rate, such as brisk walking, playing sports or yard work.
- Quit smoking–ask your doctor for help.
- Eat well–ask your doctor for help with a weight loss plan.
- Use less salt and eat more fruits and vegetables.
- Limit alcohol.

Talk with your doctor before making lifestyle changes.

MaineHealth

PATIENT EDUCATION

## Come prepared for a blood pressure reading

Follow these four steps to be prepared for your blood pressure check.

1. **Wear a short-sleeved shirt**, or other shirt that you can easily slip off your arm.
2. At least **30 minutes before your appointment, DO NOT:**
   - smoke
   - exercise
   - drink caffeine (no coffee, tea, or soda).
3. For at least **five minutes before your blood pressure check:**
   - empty your bladder
   - sit down and relax with both feet on the floor and your back supported.
4. **Don't talk** while your blood pressure is being checked.

Remember to record your blood pressure numbers in your log.

Continued

## What do your blood pressure numbers mean?

Blood pressure is measured by two numbers. The top number, "systolic," is the pressure in your blood vessels when your heart beats. The bottom number, "diastolic," is the pressure in your blood vessels between heartbeats. Your blood pressure is:

**Normal blood pressure:** Great! You should have your blood pressure rechecked once or twice a year.

**Elevated or high blood pressure:** Ask your doctor the following:

- When should I have my blood pressure checked again?
- Do I need treatment for my high blood pressure?
- What about lifestyle changes?

HIGH
if your numbers are:
130 or above **OR**
80 or above

ELEVATED
if your numbers are:
120-129 **AND**
Below 80

NORMAL
if your numbers are:
120 or less **AND**
Below 80

Continued

**Order # 148089**

# Section 3.7 Health Improvement Resources

PATIENT EDUCATION MaineHealth

## Health Improvement Resources for High Blood Pressure Check out these websites for more information:

### 1. General Cardiovascular

- **MaineHealth Cardiovascular Health Program** www.mainehealth.org/cvh Information for patients and providers about MaineHealth cardiovascular materials and resources.
- **American Heart Association** www.heart.org Information and interactive tools about many heart-related conditions and ways to improve heart health, including tips on nutrition, exercise, stress and more! To contact the local AHA, call **(207) 879-5700.**

### 2. Healthy Living

- **MyPlate** www.choosemyplate.gov Nutrition advice to build healthier diets with resources and tools for dietary assessment, nutrition education and other nutrition information.
- **Maine Trail Finder:** www.mainetrailfinder.com Try walking for exercise. Find walking routes near you.
- **Maine Bike Coalition** www.bikemaine.org Learn about local bike trails, biking events and rides.
- **My FitnessPal** www.myfitnesspal.com If you are ready to get started on a weight loss or fitness journey, track your progress with either a Fitbit, jawbone or download an app to your phone.
- **Maine Tobacco Helpline** https://preventionforme.org/ If you are trying to quit smoking, call this free and confidential helpline that offers support and quitting techniques. 1-800-207-1230 or, for hearing impaired **1-800-457-1220.**
- **MaineHealth Learning Resource Center** https://mainehealth.org/healthy-communities/learning-resource-center For health education classes, health information, and personalized assistance from health educators to answer health questions, contact the Learning Resource Center: **1-866-609-5183.**

### 3. Emotional Health

Ask your doctor about a referral to a behavioral health specialist if you are struggling with emotional issues related to your health.

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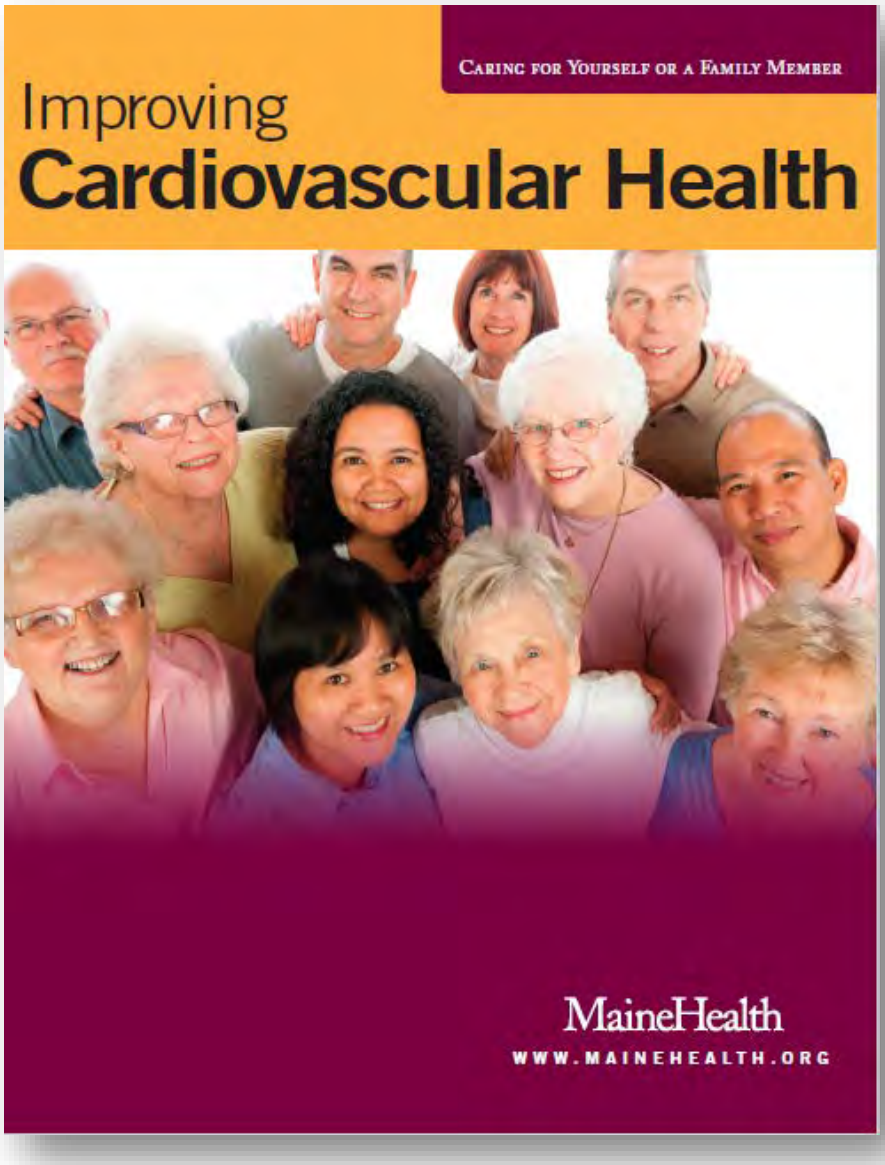
144521 4/20

**Order #144521**

## Section 3.8 Improving Your Cardiovascular Health

**Booklet:** This 53-page guide is for adults who have cardiovascular disease and their family members. It is also for people who want to lower their chance of getting this disease. This step-by-step guide helps you understand this disease. You will learn how to manage the major risk factors that cause cardiovascular disease.



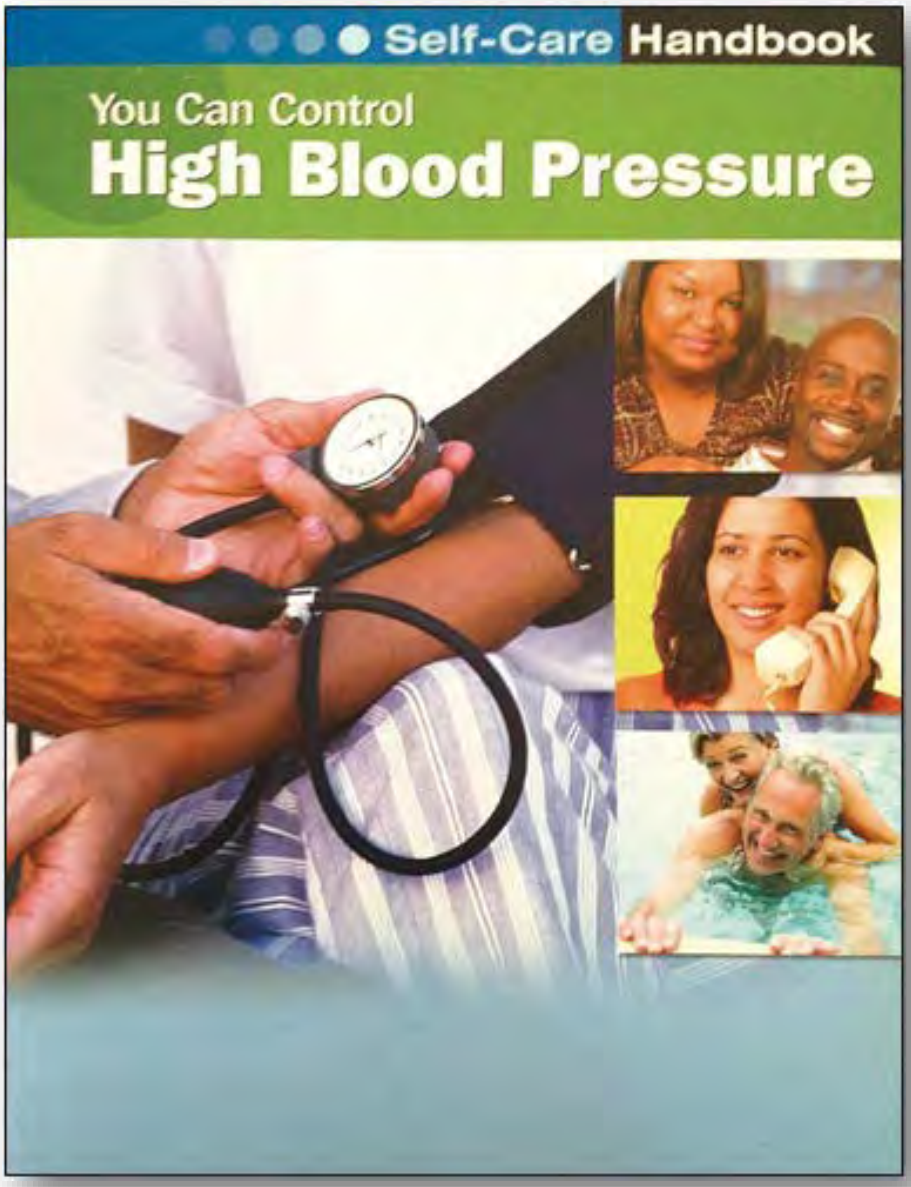

**Order #148238**

## Section 3.9 You Can Control High Blood Pressure

**Booklet:** This 30-page booklet is designed to be used by educators as a one-on-one, interactive tool with patients.

**To order**, go to www.channingbete.com

(Actual size: 8 ½ x 11 inches)



# Section 3.10 My Self-Care Action Plan

PATIENT EDUCATION MaineHealth

## My Action Plan

**Name** _____ **Date**_____

- Choose something you want to do. Not something you feel you should do.
- Choose a goal that you really think you can do.
- Choose a friend or family member to help you meet your goal.

**1. What I Will Do**

Choose One:

- ☐ Increase my physical activity.
- ☐ Take my medicines.
- ☐ Improve my food choices.
- ☐ Lower my stress.
- ☐ Reduce my tobacco use.
- ☐ Other: _____

I will _____ (Example: walk more)

**2. How Much/How Often**

How much: _____
(Example: 20 minutes)

How often: _____
(Example: three times a week)

When: _____
(Example: Monday, Wednesday, Friday)

**3. Confidence Level**

Circle a number to show how sure you are about doing the activity.
Try to choose an activity that you score a 7 or above.

1 2 3 4 5 6 7 8 9 10
Not sure at all Somewhat sure Very sure

**My signature** _____

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144542 4/20

**Order #144542**

# Section 4 TRAINING

## Section 4.1 Blood Pressure Onsite Training and Support

### Does your practice have patients with uncontrolled hypertension?

**We can help!**

Approximately 37,000 patients in the MaineHealth service area have been diagnosed with hypertension, yet only 68% are in good control or have a blood pressure <140/90.* The MaineHealth Cardiovascular Health team has compiled evidence-based training, tools and resources to help your patients achieve hypertension control to prevent cardiovascular complications.

**The MaineHealth Cardiovascular Health team will come to your practice and provide <u>FREE:</u>**

- **Staff training in best practice blood pressure measurement****
- **Competency checks in accurate blood pressure measurement**
- **Information on lifestyle counseling for improving blood pressure**
- **Patient education materials and resources**
- **Clinical guidelines and treatment algorithms**
- **Exam room re-design and office flow recommendations for best practice BP measurement**

Contact **Prevention@mainehealth.org** for more information or to schedule a training,

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*Hypertension control is defined as patients ages 18-85 diagnosed with Hypertension with an office visit in the last 12 months whose most recent BP is < 140/90.

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***Physicians are eligible for 1.5 AMA PRA Category 1 credits*

***All participants receive a certificate of attendance with 1.5 AMA PRA Category 1 credits*

# Section 4.2 Blood Pressure Competency Checklist

## Blood Pressure Competency Checklist

| PATIENT POSITION | Met | Not Met |
|---|---|---|
| 1. Back supported | ☐ | ☐ |
| 2. Feet flat | ☐ | ☐ |
| 3. Brachial artery at level of left atrium | ☐ | ☐ |
| 4. One other consideration (e.g. emotional state, talking, bladder, etc.) | ☐ | ☐ |

| CUFF POSITION | Met | Not Met |
|---|---|---|
| 5. Bladder centered over brachial artery | ☐ | ☐ |
| 6. Cuff 1" above bend of elbow | ☐ | ☐ |
| 7. Proper cuff size: bladder of cuff 80-100% arm circumference for adults and children | ☐ | ☐ |
| 8. No clothes between bladder and arm | ☐ | ☐ |

| A-P TECHNIQUE | Met | Not Met |
|---|---|---|
| 9. Palpates radial pulse | ☐ | ☐ |
| 10. Estimates systolic pressure | ☐ | ☐ |
| 11. Pumps to 20-30 points above ESP | ☐ | ☐ |
| 12. Rate of deflation 2-3 mm/sec | ☐ | ☐ |

**Order #146057**