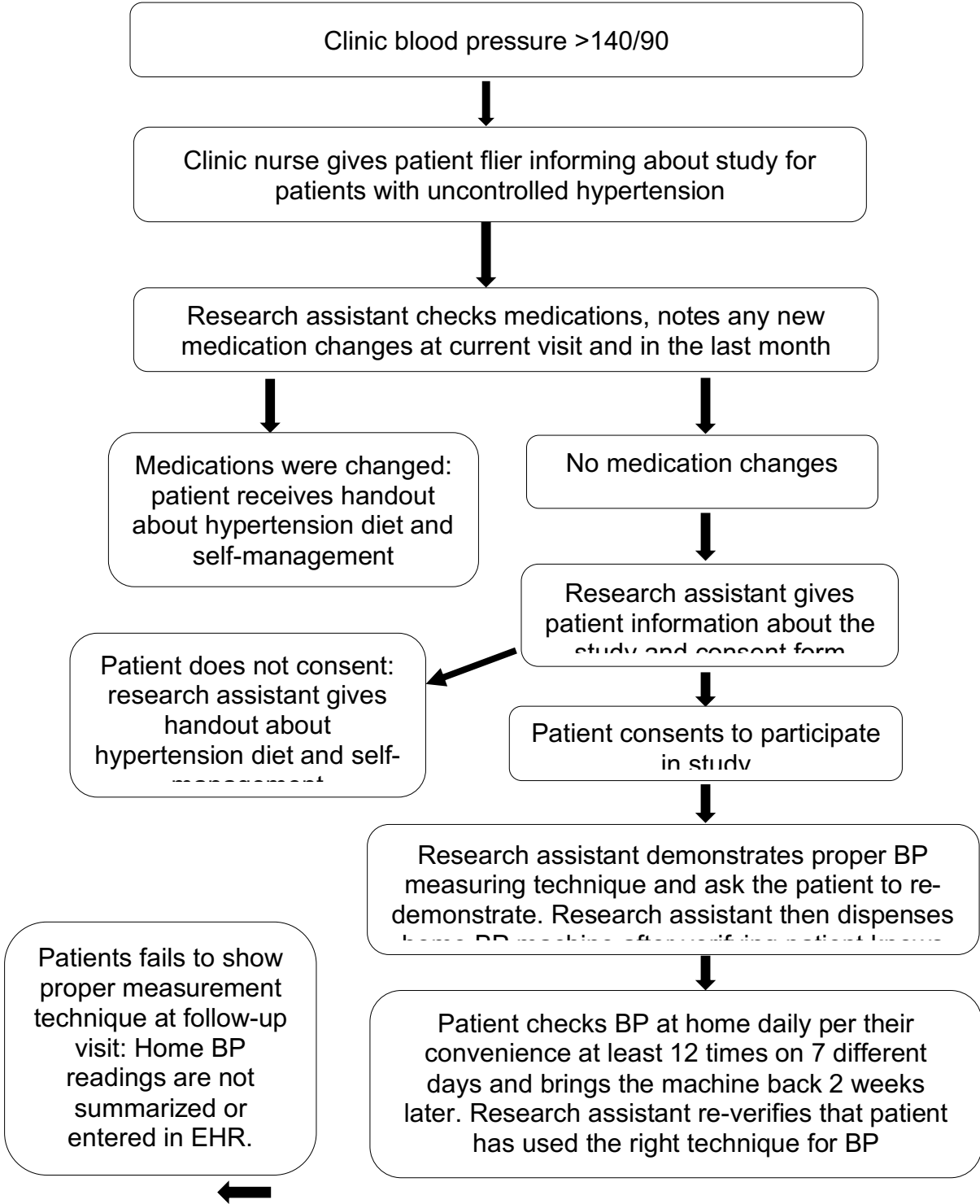


## **Supplemental materials for:**

Patil S, Wareg NK, Hodges KL, Smith JB, Kaiser MS, LeFevre ML. Home blood pressure monitoring in cases of clinical uncertainty to differentiate appropriate inaction from therapeutic inertia. *Ann Fam Med.* 2020;18(1):50-58.

Supplemental Figure 1: Intervention flow diagram



*Supplemental Appendix: Task checklist for intervention fidelity*

Supplemental Appendix: Task checklist adapted from [Centers for Disease Control and Prevention: Self-Measured Blood Pressure Monitoring: Actions Steps for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2014.](#)  
[https://millionhearts.hhs.gov/files/MH\\_SMBP\\_Clinicians.pdf](https://millionhearts.hhs.gov/files/MH_SMBP_Clinicians.pdf) (page 20, Table 8)

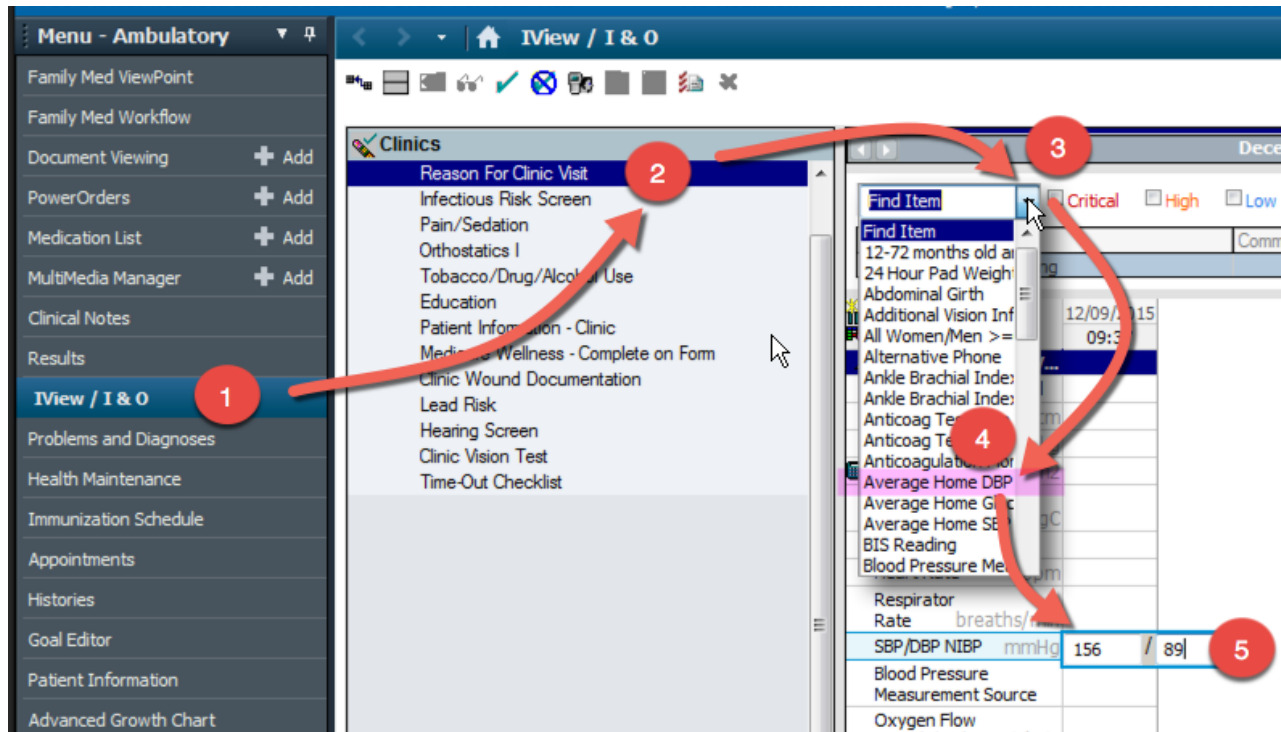
The patient should perform all tasks at the initial visit and 75% of the tasks when returning home BP machine with proper cuff placement and arm support considered an absolute requirement to consider the home BP readings valid.

1. Sit quietly for a few minutes before checking BP (1point)
2. Place the cuff on a **bare arm**. (1point)
3. Use the **proper size cuff**; if two cuff sizes fit, use the larger one. (1point)
4. Place the cuff **½ to 1 inch above the antecubital space** with the cuff's bladder (ART indicator) directly over the brachial artery on the upper arm. (Required task: 2points)
5. Apply the cuff carefully, allowing room for no more or no less than **two fingers** underneath. (1point)
6. Make sure the patient's **back is supported and relaxed**. (1point)
7. Make sure the patient's **feet are supported and legs uncrossed**. (1point)
8. Keep the **upper arm supported, relaxed, and at heart level**. (Required task: 2points)
9. Ask the patient the keep the **arm still and not talk** during the measurement cycle. (2points)

Supplemental Table 1: Patients with uncontrolled home BP and no documented change in BP management

Patient	Age	<i>Clinic BP</i>		<i>Average Home BP</i>		Notes
		Systolic	Diastolic	Systolic	Diastolic	
1	62	147	88	141	81	borderline systolic BP
2	70	176	90	152	86	perceived acceptable for 70 years old
3	69	165	81	140	86	borderline systolic BP
4	63	164	96	140	81	borderline systolic BP
5	34	138	102	120	92	borderline diastolic BP
6	58	178	98	145	83	perceived good control for individual patient per PCP
7	73	142	82	150	70	perceived acceptable for 73 years old
8	47	160	88	130	91	borderline diastolic BP
9	48	160	114	137	90	borderline diastolic BP
10	61	144	92	137	95	systolic improved and diastolic worsened, review BP control at next visit
11	63	150	89	141	89	borderline systolic BP
12	35	149	94	148	94	had gastroenteritis during one of the two weeks when checking home BP

Supplemental Figure 2. Home blood pressure EHR entry



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**Supplemental Table 2. Postintervention Survey Main Results**

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Among patients who plan to continue home BP monitoring after the study	
Own home BP monitor, %	88
Do not own home BP monitor, %	51
Patients' views on owning home BP monitor, %	
If insurance covers home BP monitor	83 would buy one 11 would buy if BP is uncontrolled 49 can afford paying \$20-\$40 for a monitor
If insurance does not cover home BP monitor, %	43 would buy if price is affordable 29 can afford paying \$40-\$60 for a monitor 23 cannot afford one
Preferred frequency of home BP monitoring, %	
Twice a day	20
Three times a week	18
Once a week	17
Once a day	15
Preferred way of discussing shared home BP readings with physician, %	
No preference	29
Individual readings	1
Graph of average readings per week	7
Graph of all individual readings	7
Steps reported most difficult to remember/follow when measuring BP at home, %	
Wait at least 30 minutes after drinking coffee or exercising	39
No talking while measuring	33
Sit in a chair with back supported	17

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BP = blood pressure.

**Here is why you need to follow the instructions:**

Blood Pressure Variability	
Factor	Systolic - Top Number
Cuff Too Small	10-40 ↑
Cuff Over Clothing	10-40 ↑ or ↓
Back/Feet Unsupported	5-15 ↑
Legs Crossed	5-8 ↑
Arm Tense	15 ↑
Not Resting 3-5 Minutes	10-20 ↑
Anxiety/White Coat	As much as 30 ↑
Patient Talking	10-15 ↑
Labored Breathing	5-8 ↑
Full Bladder	10-15 ↑
Pain	10-30 ↑
Arm Above or Below Heart Level	10 ↑ or ↓ For every 1 cm above or below heart level, blood pressure varies by 0.8
Factor	Diastolic - Bottom Number
Arm Extended and Unsupported	10% ↑

[Centers for Disease Control and Prevention. Self-Measured Blood Pressure Monitoring: Actions Steps for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2014.](#)

Recommended Blood Pressure Goals	
Age > 60 years	Less than 150/90
Age < 60 years	Less than 140/90
Any age if with Diabetes or Chronic Kidney Disease	Less than 140/90

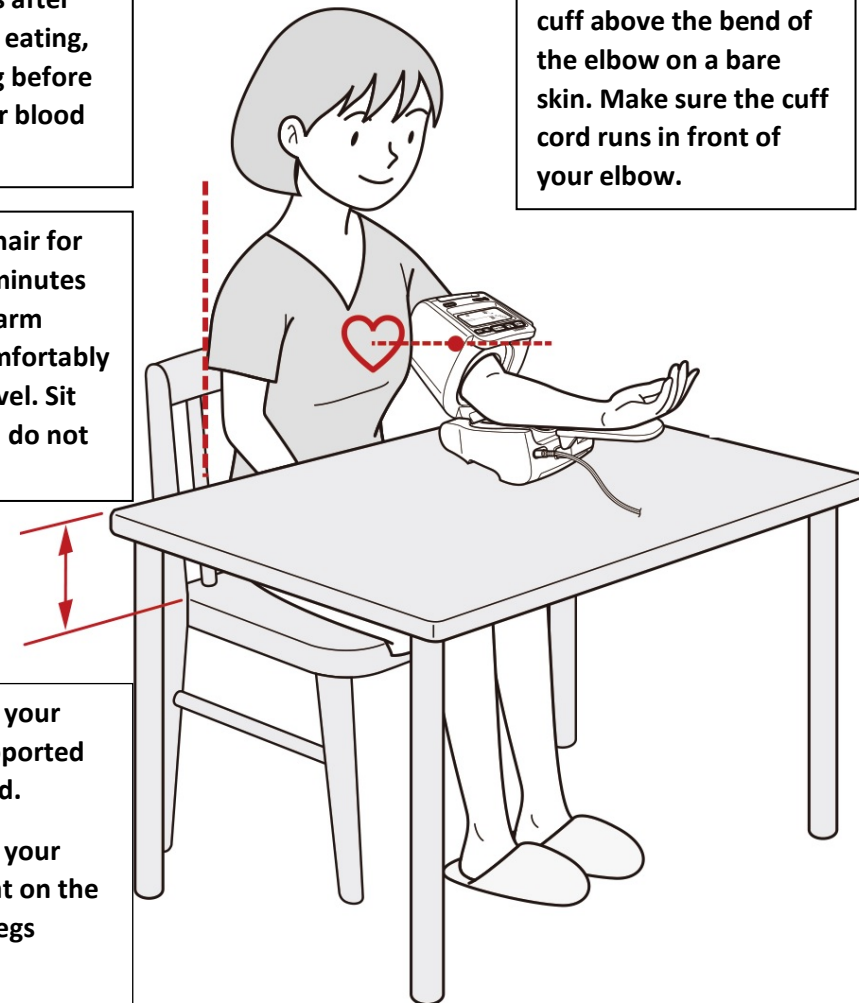
**Remember: You can always call and schedule a nurse visit in your clinic to measure your blood pressure.**

## HOME BLOOD PRESSURE MEASUREMENT INSTRUCTIONS

Make sure to wait 30 minutes after exercising, eating, or smoking before taking your blood pressure.

Rest in a chair for at least 5 minutes with your arm resting comfortably at heart level. Sit calmly and do not talk.

Place the bottom of the cuff above the bend of the elbow on a bare skin. Make sure the cuff cord runs in front of your elbow.



Make sure your back is supported and relaxed.

Make sure your feet are flat on the floor and legs uncrossed.

Image: [OMRON Healthcare Group. Upper Arm Blood Pressure Monitor \(Fully Automatic Type\). OMRON Healthcare 2018.](#)

## Get Started Now and Begin Recording Your Blood Pressures

Date	BP	Date	BP	Date	BP

Lower your blood pressure without medication with these lifestyle modifications:

### LIFESTYLE MODIFICATION RECOMMENDATIONS

MODIFICATION	RECOMMENDATION	Average BP Reduction Range ↑
Weight Reduction	Maintain Normal Body Weight (Body Mass Index 18.5-24.9 kg/m <sup>2</sup> )	5-20 mmHg**/10 Kg
DASH Diet (Dietary Approaches to Stop Hypertension)	Diet rich in fruits, vegetables, and low-fat dairy products with reduced saturated and total fat content	8-14 mmHg
Dietary Sodium Reduction	Reduce dietary sodium intake to ≤100 mmol per day (2.4 g sodium or 6 g sodium chloride)	2-8 mmHg
Aerobic Physical Activity	Regular aerobic physical activity (e.g., brisk walking) at least 30 minutes per day, most days of the week	4-9 mmHg
Moderation of Alcohol Consumption	Men: Limit to ≤2 drinks* per day Women & Lighter Weight Persons: Limit to ≤1 drink per day	2-4 mmHg
* 1 drink = ½ OZ a 15ml ethanol (e.g., 12 OZ beer, 5 OZ wine, 1.5 OZ 80-proof whiskey)		
** mmHg = A millimetre of mercury is a manometric unit of pressure		
↑ Effects are dose and time dependent		
<a href="#">National Institutes of Health. Reference Card From the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7). Bethesda, MD: U.S. Dept. of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 2003.</a>		

To learn how to measure BP at home, check this Self-measured Blood Pressure (SMBP) training video created by the American Medical Association and the American Heart Association:

<https://www.youtube.com/watch?v=9O4EX1CuC5E> or

<http://newsroom.heart.org/file?fid=5c76d7e32cfac2582a7b62e8>



Your arm circumference measures the size around your upper arm and is important when purchasing the right size blood pressure cuff.

Cuff Description	Arm Circumference Range
Small Adult Cuff	Between 7 to 9 inches.
Standard Adult Cuff	Between 9 to 13 inches.
Large Adult Cuff	Between 13 to 17 inches.

### Validated Blood Pressure Monitors (Prices may vary.)

**Omron BP760N 7 Series Upper Arm Blood Pressure Monitor (displays the average)**

- Walmart – \$64.88
- D&H Drugstore – \$89.99
- University Pharmacy – \$47.66
- Walgreens – \$79.99
- Amazon – \$49.75

**Omron 10 Series Upper Arm Smart Blood Pressure Monitor, BP786 (displays the average)**

- Walmart - \$60.99
- Amazon - \$62.58
- University Pharmacy – \$53.39
- Walgreens – 104.99

**A&D BP Monitor - arm 8.6-16.5 u767**

- Kilgore's Pharmacy – \$52.80
- Amazon – \$59.99

**A&D AccuFit Plus (UA-767F)**

- D&H Drugstore - \$52.80

**Omron 3 Series** University Pharmacy - \$29.99

**Omron 5 Series (displays the average)** University Pharmacy – \$34.3



