

## SELF-MEASURED BLOOD PRESSURE MONITORING

### Introduction

Self-measured blood pressure monitoring (SMBP) refers to the regular measurement of one's own blood pressure. Though there are multiple settings where blood pressure can be measured, SMBP broadly refers to the regular use of a personal blood pressure measurement device that is used by a patient outside a clinical setting. While these devices may be used in settings such as a workplace or church, they are typically used at home and often referred to as home blood pressure monitors.

Research has shown that to help control high blood pressure, monitoring blood pressure at home can be helpful in addition to regular monitoring in a health care provider's office. The American Heart Association recommends home monitoring for all people with high blood pressure to help the health care provider determine whether treatments are working. However, it should be noted that home monitoring is not a substitute for regular visits to the physician. If you have been prescribed medication to lower your blood pressure, do **not** stop taking your medication without consulting your doctor, even if your blood pressure readings are in the normal range during home monitoring.

### Why Do I Need to Monitor My Blood Pressure at Home?

Monitoring blood pressure at home can:

- **Help with an early diagnosis.** Home monitoring is especially important if you have slightly elevated blood pressure (prehypertension) or another condition that could contribute to high blood pressure, such as diabetes or kidney problems.
- **Help track treatment.** Monitoring blood pressure changes at home can help you and your doctor make decisions about your treatment, such as adjusting dosages or changing medications.
- **Encourage better control.** Self-monitoring can give you a stronger sense of responsibility for your health. Improving diet, being physically active and taking medications as prescribed can all help you to control your blood pressure.
- **Determine if your blood pressure differs outside the doctor's office.** Some people experience anxiety when at a doctor's office, which leads to temporarily higher readings. This condition is known as "white-coat hypertension." At the other extreme, some individuals have normal readings in a doctor's office but elevated readings outside the office.



This condition is often referred to as "reverse white-coat hypertension" or "masked hypertension." Such false readings can lead to over-diagnosis or misdiagnosis of high blood pressure. Self-measurement at home is good to reveal whether your blood pressure reading in the doctor's office is correct.

### Who Should Monitor Blood Pressure at Home?

Home monitoring may be especially useful for:

- People starting treatment for high blood pressure to determine its effectiveness.
- People requiring closer monitoring than intermittent office visits provide, especially individuals with coronary heart disease, diabetes and/or kidney disease.
- Pregnant women since preeclampsia or pregnancy-induced high blood pressure can develop rapidly.
- People who have some high readings at the doctor's office, to rule out white-coat hypertension and confirm true high blood pressure.
- Elderly people, because the white-coat hypertension effect increases progressively with age.
- People suspected of having masked hypertension.

### Who Should Not Home Monitor?

Not everyone can track blood pressure at home. If you have an irregular heartbeat, home blood pressure monitors may not give an accurate reading.

### Choosing the Right Type of Home Monitor

Available home blood pressure monitors range from manual devices that require patients to measure blood pressure with a stethoscope and sphygmomanometer (auscultatory) to devices that are partially or fully automated (oscillometric). *The American Heart Association recommends an automatic, cuff-style, bicep (upper-arm) monitor. Wrist and finger monitors are not recommended because they yield less reliable readings.*

Ask your health care professional for advice on selecting and using a device to monitor your blood pressure at home. Also, have the device checked by your health care provider when it is new and once a year to make sure the readings are accurate.

Here are a few tips to follow while choosing a blood pressure monitor:

- **Choose a validated monitor.**  
Make sure the monitor has been tested, validated and approved by the Association for the Advancement of Medical Instrumentation (AAMI), the British Hypertension Society (BHS) and the International Protocol for the Validation of Automated Blood Pressure Measuring Devices (IP). A list of validated monitors is available on the [Dabl Educational](#)

[Trust website](#). For a validated upper arm home blood pressure monitor, you should expect to pay in the range of \$50 to \$100.

#### How to choose a home blood pressure monitor:

Preferred	Not Preferred
Automated	Manual
Upper arm cuff	Wrist or finger cuff
Validated by AAMI, BHS, or IP	Not validated
Memory storage capacity	No memory storage
Accuracy checked by physician or nurse after purchase	Using monitor without consulting health care provider

- **Make sure the cuff fits.**

Having a properly fitting cuff is the most important factor to consider because poorly fitting cuffs will not give accurate blood pressure measurements. Measure around your upper arm, and choose a monitor that comes with the correct size cuff. Adults with smaller or larger than average-sized arms may need special-sized cuffs. If you cannot find a cuff big enough for your upper arm, ask your doctor about fitting a cuff to your lower arm or wrist. Lower arm and wrist cuffs can be difficult to use correctly, so ask your doctor if they might be options for you and how they should be used.

### How to Monitor Your Blood Pressure

#### Step 1:

Make sure the cuff fits. Measure around your upper arm, and choose a monitor that comes with the correct size cuff.



#### Step 2:

- Don't smoke, drink caffeinated beverages, or exercise within the 30 minutes before measuring your blood pressure. Also, use the bathroom first. A full bladder can increase blood pressure slightly.

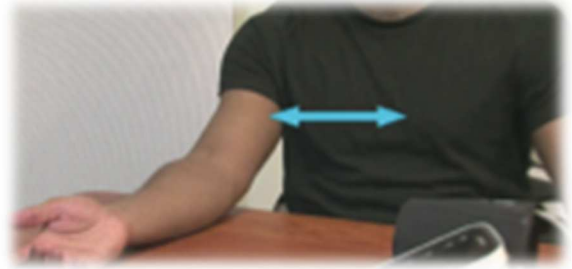
#### Step 3:

- Be still. Do not talk while taking blood pressure readings.

#### Step 4:

- Sit correctly, with your back straight and supported (for example, on a dining chair, rather than a sofa).
- Place your feet flat on the floor, and do **not** cross your legs.

- Your arm should be supported on a flat surface (such as a table) with your upper arm at heart level. Make sure the middle of the cuff is placed directly above the eye of the elbow (approximately one inch above the elbow).
- Place the cuff on bare skin. Check your monitor's instructions for an illustration or have your health care provider show you how.



**Step 5:**

Follow directions on the blood pressure device to start the reading.

**Step 6:**

Take multiple readings. Each time you take your blood pressure, do it two or three times, one minute apart, and record all results.

**Step 7:**

Measure your blood pressure twice daily, once in the morning (before breakfast and medications) and once at night, or as recommended by your health care provider. It is also important to take the readings at the same time each day.

**Step 8:**

Record all of your readings, including the date and time taken. Share your blood pressure records with your health care team.

*A single high reading of blood pressure is not an immediate cause for alarm. However, if you get a high reading, take your blood pressure several more times. If readings remain high, consult your health care professional to determine if a medical intervention is needed or your blood pressure monitor is malfunctioning. When blood pressure reaches a systolic (top number) of 180 or higher OR diastolic (bottom number) of 110 or higher, emergency medical treatment is required.*

## REFERENCES:

*This protocol has been adapted from existing materials on the American Heart Association website and the Million Hearts Initiative.*

- American Heart Association. How to Monitor and Record Your Blood Pressure. Accessed at [www.heart.org/HEARTORG/Conditions/HighBloodPressure/SymptomsDiagnosisMonitoringofHighBloodPressure/How-to-Monitor-and-Record-Your-Blood-Pressure\\_UCM\\_303323\\_Article.jsp](http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/SymptomsDiagnosisMonitoringofHighBloodPressure/How-to-Monitor-and-Record-Your-Blood-Pressure_UCM_303323_Article.jsp) on February 26, 2016.
- Million Hearts. Accessed at [millionhearts.hhs.gov](http://millionhearts.hhs.gov) on February 26, 2016.