

This article is brought to you by **OMRON**® blood pressure monitors

High Blood Pressure: Getting the Most Out of Home Monitoring

Victor J. Lewis, PharmD, and Robert Lee Page II, PharmD, FASCP, CGP, BCPS

Dr. Lewis is a pharmacy practice resident at University of Colorado (UC) Hospital. Dr. Page is an associate professor of clinical pharmacy and physical medicine and a clinical specialist, Division of Cardiology, UC Health Sciences Center, Schools of Pharmacy and Medicine.

Blood pressure is often used to predict the risk for several serious health problems, such as heart disease. Many people are used to getting their blood pressure checked regularly at their doctor's office. While quick and easy to measure, blood pressure can vary greatly throughout the day, depending on a patient's surroundings, physical well-being, recent meal, or even the time of day.

These factors make it difficult for the doctor to understand how to treat the high blood pressure (also called *hypertension*) since he or she only measures the blood pressure during appointments. Fortunately, a wide variety of home blood pressure monitors can be purchased at pharmacies so that patients can take an active role in helping control their blood pressure by checking it at home.

Why Should I Monitor My Pressure at Home?

There are several advantages to monitoring your blood pressure at home. First, it creates a more complete picture of what your blood pressure looks like throughout the day.

Taking your blood pressure at home, gets rid of the stress of being at the doctor's office. When the blood pressure is increased due to the anxiety of being in the doctor's office, this is called *white-coat hypertension*.

Second, monitoring blood pressure at home will help you see if your medications or changes in your lifestyle such as a low-salt diet or increased exercise are working to keep your blood pressure down. Keeping a list of your blood pressure measurements at home helps your doctor make better decisions about your care. Finally, home blood pressure monitoring has been

shown to result in better blood pressure control and greater success in getting your blood pressure under control. This could mean fewer doctor visits.

There are times, however, when home blood pressure monitoring may not be recommended. For example, most home blood pressure monitors may not provide correct readings if your heartbeat is too fast or too slow. If you are overweight or very muscular, a regular-size blood pressure cuff may not fit around your arm and could provide incorrect readings.

Therefore, you might need a large cuff, which is usually sold separately, or you can purchase one of the new preformed expandable cuffs that fit regular and large arms, such as the ComFit cuff from Omron. Your pharmacist or doctor can help you decide if home blood pressure monitoring is right for you.

What Are the Different Types of Home Monitors?

Several different blood pressure monitors are available at your local pharmacy. The range of choices include manual and automatic devices. For the first-time user, this may be confusing, so you should ask your doctor or pharmacist what type of monitor is best for you.

Home blood pressure monitors are either manual or automatic devices. Some manual devices, referred to as self-taking, consist of an inflatable cuff and a stethoscope attached to a gauge by a rubber tube. The gauge will most often be a dial with a needle corresponding to the current pressure. You must place the cuff on your upper arm with the stethoscope positioned over the brachial artery, which is located slightly above the inside of your elbow. The *brachial artery* is a large artery that runs from the shoulder down to the elbow.

By pumping the bulb, you will inflate the cuff. With the stethoscope, you can listen to certain blood vessel sounds and your heartbeat as you slowly deflate the cuff. Your pharmacist can help you with the instructions. Other manual devices use more advanced technology that automatically determines your blood pressure reading, eliminating the need for the stethoscope.

A Patient Handout from Your Pharmacist



These manual devices include an inflatable cuff, a manual pump, and a monitor that provides a digital readout.

Most patients prefer using an automatic device, which consists of a cuff and a monitor that records the pressure automatically. First, you place the cuff on the upper arm. Second, by simply touching a button, the device automatically inflates and deflates the cuff while measuring the blood pressure and heart rate.

Many of these devices can detect an irregular heart-beat, have an internal memory function that can store and recall your blood pressure readings, and automatically calculate and display the average of your most recent readings, and some even help determine if you have morning hypertension, which is a significant risk factor for stroke. *Morning hypertension* is when your blood pressure is too high in the morning.

Wrist blood pressure monitors that automatically inflate when the wrist is at heart level have been clinically proven as accurate as upper-arm devices. However, finger devices are not accurate and should not be used.

Can I Rely On Public Blood Pressure Machines?

You should *not* rely on public blood pressure machines found in grocery stores or malls. These machines are often not checked on a regular basis for accuracy.

What Should I Consider When Purchasing a Monitor?

Many factors should be considered when purchasing a home blood pressure monitor. The most important is choosing a monitor that has been validated for accuracy. Check with your pharmacist to ensure that the mon-

itor has been clinically proven to be accurate. The next most important feature is having a monitor with a cuff that fits your arm. Your pharmacist can help determine what size cuff is needed specifically for you. Larger cuffs may be slightly more expensive, but ones that are too small will give incorrect readings.


Make sure you can read the numbers on the display screen clearly and understand how to use the device before buying. Consider cost when shopping for a home blood pressure monitor. The devices average around \$79. However, they start at about \$20 for a manual self-taking unit with a stethoscope and range to just over \$100 for a fully featured model with computer software that

allows you to download, track, and print your readings from your home computer.

How Do I Take Accurate Blood Pressure Readings at Home?

Now that you have purchased your monitor, you may want to ask your doctor to watch you take a blood pressure reading to make sure you are applying the cuff correctly. There are several important things you should remember before using the device at home.

Check your blood pressure at the same times every day, about an hour after you wake up and in the evening, about an hour before bedtime. Always use the same arm each time. Make sure that you are in a quiet, comfortable setting when taking your pressure. Avoid caffeine, food, tobacco, and alcohol for 30 minutes before checking your blood pressure. A full bladder can increase blood pressure slightly, so go to the bathroom first.

Before taking your pressure, sit in a comfortable position with your back supported, legs and ankles uncrossed, and feet on the floor for at least 3 to 5 minutes. Do not talk, eat, or chew gum while taking your blood pressure. Place the cuff directly on the skin, and do not roll up long sleeves. This can make the readings incorrect. Take a second blood pressure measurement 1 to 2 minutes after the first one is finished for better accuracy. If your device does not have memory, write down your blood pressure readings, including the date and the time of day they were taken. Bring the record of your blood pressure readings to all doctor appointments. If you have questions, ask your pharmacist or doctor. For more information on hypertension, visit www.bpnnumbers.com. 

This handout for patients will be available online at www.pharmacytimes.com.