

How to Check Your Blood Pressure with a Sphygmomanometer

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A sphygmomanometer with stethoscope.

If you have hypertension (also called high blood pressure), it's important to check your blood pressure regularly. Unfortunately, though, many people have "lab coat syndrome," (AKA "white coat hypertension") meaning that their blood pressure skyrockets when approached by a medical professional wearing a dreaded stethoscope. Taking readings at home (and/or at work) will allow you to estimate your average blood pressure measurements in day-to-day, real-life situations. While there are many digital blood pressure units on the market, the cheapest -- and arguably, most reliable -- instrument is the sphygmomanometer, or "manual kit," which is very similar to the unit your doctor uses.

1 - Remove the cuff, stethoscope, pressure gauge, and bulb (also known as a "bladder") from the kit, taking care to untangle the various tubes.

2 - Sit down at a table or desk where you can easily rest your arm so that when you bend your elbow, your elbow is parallel to your heart. (Some experts recommend you use your left arm; others suggest you test both arms. But while you're first adjusting to self-testing, use the left arm if you're right-handed, or vice versa.)

3 - Bend the arm you're going to test.

4 - Wrap the cuff around your upper arm (upper middle arm), slipping the top part of the cuff through the metal bar that's attached to the cuff. If your shirt has long sleeves, roll them up first. You can put the cuff over very thin clothing. Most cuffs have Velcro, making it easy to keep the cuff in place.

5 - Make sure the cuff is snug, but not too tight -- if you cut off your circulation and become agitated, you're going to get an alarming blood pressure reading!

6 - Gently put the earpieces of the stethoscope in your ears. They should feel comfortable in your ears. If not, try holding the stethoscope out in front of you and slightly shifting the earpieces away from you.

7 - Place the wide head of the stethoscope (the diaphragm) entirely on your skin just above the elbow, on the inside of your now straightened arm; the brachial artery.

Do not hold the head of the stethoscope with your thumb-your thumb has its own pulse and this will confuse you while you try to obtain a reading. A good method is to hold the chestpiece between your index and middle fingers with your fingertips in the vertical space between the diaphragm and bell. You will not normally hear a thumping until you have begun to inflate the cuff. To aid in finding this you can press two fingers (not your thumb) to the area where it should be and move around until you feel a pulse.

8 - If the pressure gauge is clipped to the cuff, unclip it and attach the clip to something sturdy, such as a hardcover book, that you can place on the table so you can watch it. It's important to keep the gauge anchored and stable. Make sure there is adequate light and you can see the needle and pressure markings well before you begin to test.

9 - Take the rubber bulb and tighten the valve at the base. Be sure to turn the valve all the way clockwise to shut it off so that air doesn't escape when you pump. **DO NOT OVER-TIGHTEN THE VALVE.** This is key, doing so will not allow you to release air from the cuff slowly enough at first. This is because you will twist it open too far and let out air too fast due to the force needed to open it. **Only turn the valve closed until you feel it stop.**

10 - Pump the bulb using slow but very steady pressure until the needle on the gauge is at about 20-30 points above your usual systolic (top) number. Now, gently turn the bulb's valve counter-clockwise slightly so that air is released slowly and steadily. Doing this yourself as you listen is a little tricky, **you should release the valve with the hand on your cuff arm and hold the stethoscope with your free arm.** The needle should ideally be moving down at a rate of two marks per second for accuracy.

11 - As you watch the needle fall back down the gauge, listen for a thumping sound (The clinical name for this is "Korotkoff sounds"). Keep your eyes on the gauge -- when you first hear thumping, you have your **systolic number**, which represents the greatest amount of pressure exerted on the artery walls as your heart pumps blood.

12 - Keep watching the gauge and listening to the beats. Eventually the hard thumping sound will turn into a "whooshing" sound (these are called the 4th Korotkoff sounds). These sounds are helpful to listen to because they tell you that you are close to your diastolic blood pressure. When the thumping fades to silence, you have your **diastolic (bottom) number**, the lowest amount of pressure.

13 - If you miss the exact measure of either number, it's perfectly acceptable to pump the cuff back up a little to catch it. Just don't do it too much (like more than twice) because that can affect accuracy. Switch to the other arm in that event and start again.

Tips

- Accept the fact that the first few times you try using a sphygmomanometer you'll likely make some mistakes and become frustrated. It takes a few tries to get the hang of this. Most kits come with instructions; be sure to read them.
- For best results, take a second reading five to ten minutes after your first reading. (You may want to test your other arm, too, for the second reading. This may also be a good idea if your first reading was abnormal) Blood pressure fluctuates within minutes (sometimes dramatically), and if you take two readings within about a ten-minute period, you can come up with an accurate average number.
- Take a reading when you're especially relaxed: that will give you an idea of how low you can go. But also force yourself to take a reading when you're upset, as unpleasant as that thought is; you need to know how high your blood pressure goes up when you're angry or frustrated.
- It may also be a good idea to take readings in different positions: standing up, sitting and lying down (possibly having someone do it for you there). These are called orthostatic blood pressures and are helpful for determining how your BP varies by position.
- Keep a diary of your blood pressure readings. Note the time of day when you took the reading and whether it was just before you ate, before or after exercise, or when you were agitated.
- Give this diary to your doctor at your next appointment. Your doctor may be able to glean an important pattern or clue to your fluctuations in blood pressure.
- You may want to check your blood pressure about fifteen to thirty minutes after exercising (or meditating or other stress relief activities), to see if there is an improvement in your numbers. There should be an improvement, which will provide good incentive to keep up your exercise regimen! (Exercise, like diet, is key to controlling blood pressure.)
- If you don't prefer saying "BP cuff", then here is the pronunciation for sphygmomanometer according to dictionary.com:
 - /ˈsfɪgməʊməˈnɒmɪtər/ or [sfig-moh-muh-nom-i-ter] (some of us are lazy and just call it a "sphyg", which we pronounce like "spig" if you like)

Warnings

- Your blood pressure becomes elevated when you smoke, eat, or consume caffeinated beverages. You may want to wait until an hour after smoking, eating, or drinking coffee or cola, to take a reading.

- Conversely, you may want to check your blood pressure just after smoking -- the elevation in numbers will be another inducement to kick the butts. (The same goes for caffeine if you know you're addicted to coffee or caffeinated sodas; and for salty foods, if snacks like chips and pretzels are your Achilles heel.)
- Do not hold the bell (aka. "head", "diaphragm") of the stethoscope with your thumb. The thumb has a beat of its own, which may interfere with the reading. Always two fingers.