



Home Blood Pressure Monitoring

Patient Instructions

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Purchasing Home Blood Pressure Units

Electronic home blood pressure units are the preferred machines to purchase because:

- They do not require a stethoscope
- They are easy to use and very durable.

There are many manufacturers and models, but simply put, you can purchase an electronic unit with two options—fully automatic or semi-automatic.

The **fully automatic** electronic units will:

- inflate, measure, and
- Display the blood pressure with the push of a button.
- Simple to use
- Cost is approximately \$64-\$78.

The **semi-automatic** electronic units are **equally effective**, however require you to:

- Pump up the blood pressure cuff with the machine measuring and displaying the blood pressure.
- Cost is approximately \$30-\$35.

The two major manufacturers of blood pressure units sold in the United States are **Omron and A&D**. There are other models sold (Lumiscope, Sunbeam, SunMark, and Walgreens), however these are made by other companies and sold under different names and model numbers.

I believe it is better to purchase from one of the major manufacturers such as Omron, as accuracy has been proven in the medical literature.

Upper arm monitors are the most proven method are preferred. Finger models are being rapidly phased out due to great inaccuracies and lack of any recommendation by healthcare providers. Wrist models are

comfortable and easy to use, however must be placed at heart level or the readings are grossly inaccurate. I only recommend the wrist model if it has an automatic sensor that only will allow the measurement to be taken at heart level. The Omron 637 has an Advance Positioning Sensor which I have been shown improves accuracy.

A proper sized upper arm cuff is critical for accurate measurements.

Purchasing a cuff that is too small for your arm will result in falsely elevated readings. It is better to purchase a slightly larger cuff rather than too small of a cuff. If you have a large upper arm, purchase a large blood pressure cuff. Manufacturers offer larger cuffs for their machines, however they may need to be purchased as a small additional charge from the pharmacy or directly from the manufacturer.

Correct blood pressure measurement:

Blood pressure measurements consist of two numbers, the first (higher) number is called the systolic blood pressure and the second (lower) number is the diastolic blood pressure. The pulse is also recorded by all of the electronic machines. An example of a blood pressure measurement is 140/80 mmHg, which translates to 140 for systolic blood pressure and 80 for diastolic blood pressure, measured in millimeters of mercury. A normal office blood pressure is less than 135/85 with a pulse usually between 60-80 beats per minute (bpm) while at rest.

Blood pressure is very variable which means it can change for a number of reasons. Many factors can increase our blood pressure, however these elevated readings may not be significant to our health. Blood pressure is elevated when we are in pain, upset, immediately after exercise (even walking), while we are talking, after tobacco usage, and immediately after caffeine usage. Elevation of our blood pressure during these circumstances does not predict future harm, (except the other dangers from tobacco usage.)

Blood pressure tends to be lower in the evening and lowest when we are sleeping. Blood pressure may vary by 50-70mmHg for systolic and 20mmHg diastolic depending on how it is measured. So, if you measure your blood pressure while talking, immediately after a cigarette and after walking back into the house, while you are upset in the early morning your measured blood pressure could be 190/100. The blood pressure when repeated under the proper conditions could be 120/80. **The difference is**

not the fault of the machine, but rather an error in the method of measurement.

The correct measurement technique is outlined below:

- Avoid caffeine, cigarettes, and alcohol for 30 minutes before the measurement.
- Measure your blood pressure when you first wake up and before dinner. (Unless instructed differently by your doctor.)
- Always sit in a chair with a back on it for 3-5 minutes, without talking, before actually measuring the blood pressure
- Have paper and pencil/pen available (preferably a graph that your doctor has provided)
- **Use the correct sized cuff for your arm**
- Position the cuff in the proper position by placing the indicator or tubing on the body side (inside) of the elbow
- Keep your arm at heart level while measuring, preferably by resting your arm on a table in a comfortable position
- If your blood pressure is elevated you may repeat the reading and record the lowest of the two readings
- Always measure your blood pressure on the first day of every month both in the morning and evening. (unless instructed differently by your doctor)

Optimal home blood pressure:

We know that measuring your blood pressure at home will result in lower readings than measurement in your doctor's office. This is because you are more relaxed at home. Your home blood pressure ideally should be less than 135/85, (unless you are a diabetic or have kidney). Patients who have hypertension and diabetes and/or kidney disease should have the office-measured blood pressure lowered to less than 135/80. You should ask your doctor what your target blood pressure should be.

