

“My blood pressure readings are wrong...I think the machine needs to be calibrated!”

Customers will sometimes call Tech Support to inquire about “getting the Rosie calibrated”. They usually ask about calibration because they are not getting satisfactory BP (blood pressure) readings. The customer then starts to question the calibration of the Rosie, which is understandable.

What many people don't realize is that with any automated blood pressure machine, there are many variable factors OTHER than calibration that can greatly affect the machine's accuracy.

It is quite common for a perfectly calibrated machine to give readings as much as 20 to 30 points off or more if certain operating guidelines and procedures—in other words, the “variables”—are not observed.

These “variables” must be taken into account first, before calibration can be considered. Calibration should actually be the LAST thing to consider, and only after all of these previously-mentioned variables have been examined and satisfied.

The variables include:

- 1) **AGE/CONDITION** of the blood pressure cuff – Blood pressure cuffs have a definite lifespan...they DO wear out and will begin to give bad readings. Over time, the internal inflating bladder can become stretched out or develop a leak, causing an improper amount of air pressure to be pumped—which then causes inaccurate BP readings.
- 2) **SIZE** of the blood pressure cuff – Many users will substitute a cuff of a different size if the proper size cuff is not available or is worn out. Blood pressure cuffs come in different sizes that are specially calibrated to be used ONLY with patients in that cuff's specific size range. Using an improper size cuff can cause the Rosie to inflate an improper amount of air, which will also cause inaccurate readings.
- 3) **PLACEMENT/POSITION** of the blood pressure cuff – Assuming that the cuff is the right size for the patient and is in good condition, it is very important to follow the “2 AND 2 RULE” for cuff placement: Place the cuff TWO finger widths above the elbow and wrap the cuff snug enough so that only TWO fingers can be inserted inside the cuff when it is on the patient's arm. Additionally, the cuff hose MUST lay inside the bend of the patient's elbow.
- 4) **PLACEMENT/POSITION** of the blood pressure hose – Make sure that the machine's BP hose has no kinks or sharp bends and is not wrapped tightly around any part of the cart or tied down in any way. (The hose can be wrapped LOOSELY around the end of the cart basket, however.) If the blood pressure hose is kinked or wrapped tightly, improper air flow can result.
- 5) **MACHINE BLOOD PRESSURE SETTINGS** – Make sure that the machine's operating settings have not been altered, which would greatly affect the machine's behavior. If you suspect that the machine's settings have been changed, call Tech Support at 1-800-841-1109, ext. 105
- 6) **USER ERROR** – Believe it or not, the problem can sometimes be traced to how the machine is being used. Call Tech Support at 1-800-841-1109, ext. 105 to receive tips on how to get the best BP readings from your Rosie machine.

STATE CERTIFICATION: If a machine needs to have its calibration verified in order to satisfy state and/or facility maintenance requirements, we strongly recommend getting in touch with the Biomed or Clinical Engineering department at your local hospital. Someone there will either be able to verify calibration or get you in touch with someone who can verify calibration.

If you have any further questions or concerns, just call Life Systems Tech Support at 1-800-841-1109, ext. 105.