

PROTOCOL FOR THE MEASUREMENT OF BLOOD PRESSURE
USING THE MICROLIFE™ AUTOMATED BLOOD PRESSURE DEVICE (MODEL #3AA1-2)

MATERIALS:

1. Microlife automated blood pressure device
2. Regular adult blood pressure cuff
3. Large adult blood pressure cuff
4. Plasticized tape measure
6. 4 spare batteries (size AA; 1.5V)
7. Data collection form; pen with black ink; clip board.

BLOOD PRESSURE MEASUREMENT PROCEDURES

Blood pressure measurement: The blood pressure measurement and the design and operation of the automated blood pressure device are based upon the combined principles of compression of the brachial artery under an elastic, inflatable cuff and the digital registration of systolic and diastolic blood pressures and the pulse using an oscillometric method. The blood pressure cuff inflates automatically.

Arm circumference measurement: Since individuals have different arm sizes, several different sized cuffs are available. Proper cuff size must be used to avoid incorrect estimate of the blood pressure. Arm circumferences should be measured in the patient's left arm prior to being seated for the blood pressure measurement. Use the following procedures to measure the participant's arm circumference to determine the appropriate cuff size.

ARM CIRCUMFERENCE MEASUREMENT PROTOCOL

- Ask the patient to remove clothing that is covering the upper left arm
- Request that the patient stand with the forearm horizontal to the floor (the elbow should be bent)
- Measure the arm length from the bony prominence of the shoulder girdle (acromion) to the tip of the elbow using a tape measure
- Determine the midpoint of the upper arm and measure the arm at this point
- Ask the patient to relax his/her arm along the side of the body
- Draw the tape measure horizontally around the arm at the midpoint mark, but do not indent the skin. Record the measurement in centimeters.
- Use the measurement to determine the correct cuff size.

Arm circumference

Cuff size

22.0-31.9 cm

regular cuff

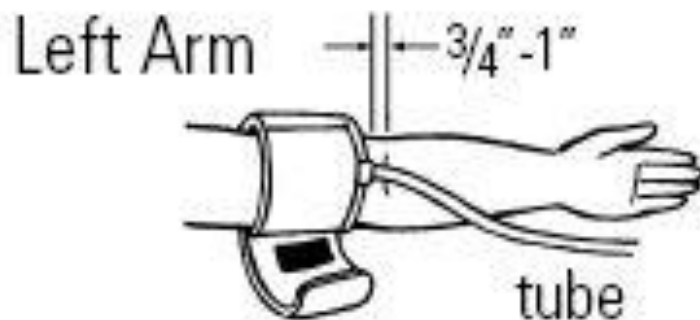
32.0-42.0 cm

large cuff

APPLICATION OF THE CUFF

Use the following procedure when applying the cuff. See the diagram for exact cuff placement

- Ensure that the participant is seated comfortably and both feet are flat on the floor. The sleeve on the left arm should be rolled up or the garments removed. The arm should not be constricted by clothing
- Slip the left arm into the appropriately sized cuff and position the cuff on the upper arm 2 cm to 3 cm above the elbow. The tube should point in the direction of the lower arm and over the brachial artery.
- Tighten the free end of the cuff and close the cuff by affixing the Velcro. The cuff should be snug on the upper arm so that 2 fingers will fit between the cuff and the upper arm. The lower edge of the cuff should be placed $\frac{3}{4}$ " above the bend in the arm.



MEASUREMENT PROCEDURE

After the cuff has been appropriately positioned:

- Allow the patient to sit quietly for 5 minutes before taking the measurement
- Allow the patient's arm to rest comfortably on the table so that the cuff is at heart level
- Turn on the instrument
- Set the instrument to measure three (3) blood pressures
- Press the "START" button to inflate the cuff. The cuff will inflate and deflate automatically.
- The display on the instrument will report the average of the 3 measurements
- If an "error" message occurs, re-check the cuff location, adjust the cuff location as necessary, and retake the 3 measurements
- Record the digital readings for systolic and diastolic blood pressures.