

## Noninvasive blood pressure (NIBP) measurement procedures

This guide serves as a reference for taking NIBP measurements as well as an overview of the common types of oscillometric measurements.

To obtain accurate NIBP measurements, the following operating steps must be observed.

### Ensure the patient is in a proper position during normal measurement:

- Comfortably seated or lying flat
- Legs uncrossed
- Feet flat on the floor, if seated
- Back and arm supported

### Correct cuff size is important (multiple sizes are available):

- The cuff width should be 40% of the limb circumference or two-thirds of the upper arm length. You can use the index line and size range to help determine proper fitting.
- The inflatable part of the cuff should be long enough to encircle 80% to 100% of the limb.
- An unsuitable cuff size may cause incorrect measurements. If the cuff size is in question, use another cuff of a suitable size to avoid errors.

### Proper application of the cuff is necessary for accurate NIBP measurement:

- Ensure the cuff is completely deflated.
- Apply the cuff to the patient's bare arm.
- Place the middle of the cuff at the level of the right atrium of the heart.
- Place the cuff so that the arrow symbol is over the artery.

### During NIBP measurement:

- Have the patient relax as much as possible – no talking.
- Do not apply external pressure against the cuff.



Because NIBP measurement will temporarily stop blood flow inside the vessel, it is recommended to place an SpO<sub>2</sub> sensor on the opposite arm (unless this is contraindicated).

# Types of NIBP oscillometric measurements

## Manual

A spot-check obtained by manually pressing the NIBP start button on demand.

## Auto

- A repeated series measurements taken at intervals ranging from 1–480 minutes (8 hours). Intervals may also be user-defined; the default user-defined interval is 2.5 minutes.
- After the first measurement begins manually, the monitor will automatically measure NIBP at set intervals.
- The Option NIBP Align Clock Switch measurement interval is set to 10 minutes by default. The range of intervals includes 5, 10, 15, 30, 60, 90, 120, 180, 240, 360, and 480 minutes. The system will automatically adjust the next measurement time after the first manual measurement.

## Continuous (STAT)

- A continuous, rapid sequence of measurements over a five-minute period.
- Measurement will run consecutively at intervals of five seconds over the five-minute period.
- Following the five-minute period, the monitor enters manual mode.

## Sequence

- After the first measurement starts manually, NIBP measurements run automatically according to preset phases and intervals.
- NIBP sequences can have up to six phases. Measurement time can be set to off, 1–30, and continuous within those phases.
- When set to off, it terminates the sequence measurement of the current phase and proceeds to the next measurement phase.
- The measurement intervals can be set from 1–480 minutes (8 hours).

**Continuous** and **sequence** measurements are not as common and are not as accurate because of their repetitive nature in obtaining an NIBP, but they may be used in the ICU when invasive blood pressure (IBP) is not available. These modes are more common in the ICU (e.g., for checking effects or effectiveness of scheduled medication), procedural areas, and in blood product administration where blood pressure measurements are needed at certain timed intervals in sequence.

6135 Gunbarrel Avenue  
Boulder, CO 80301  
800.635.5267  
[medtronic.com/covidien](https://www.medtronic.com/covidien)