

# Procedures for Measuring Height, Weight, Waist Circumference, Heart Rate, and Blood Pressure

## Height and Body Weight

- Measure height without shoes. Record height in inches to the nearest ¼ inch.
- Measure body weight in light weight clothing or remove excess clothing as circumstances permit. Measure without shoes. Record weight in pounds to the nearest ¼ pound.

## Waist Circumference

- Remove excess clothing as circumstances permit. Measure waist circumference in inches to the nearest ¼ inch at the narrowest circumference.

## Heart Rate (bpm)

Heart rate (HR) can be determined using several techniques, including radial or carotid pulse palpation, auscultation with a stethoscope, or the use of heart rate monitors. In addition to beats per minute, indicate if the heart rate is regular or irregular.

- The pulse palpation technique involves "feeling" the pulse by placing the first and second fingers over an artery (usually the radial artery located near the thumb side of the wrist or the carotid artery located in the neck near the larynx). The pulse is typically counted for 15 seconds, and then multiplied by 4 to determine the per-minute heart rate. Although the carotid pulse might be easier to obtain, you should not press too hard with the palpating fingers because this could produce a marked bradycardia (slowing of the heart rate) in the presence of a hypersensitive carotid sinus reflex.
- For the auscultation method, the bell of the stethoscope should be placed to the left of the sternum just above the level of the nipple. This method is most accurate when the heart sounds are clearly audible and the client's torso is relatively stable.
- Over the years, several automated heart rate monitors have been developed. Heart rate monitors have proven to be accurate and reliable, provided there is no outside electrical interference (emissions from the display consoles of computerized exercise equipment).

## Blood Pressure (mmHg)

Procedures for measurement of resting blood pressure are outlined below:

- Clients should be seated for at least 5 min in a chair with their back supported and their arms bared and supported at heart level. Clients should refrain from smoking cigarettes or ingesting caffeine during the 30 min preceding the measurement.
- Under special circumstances, measuring supine and standing positions may be indicated.
- Wrap cuff firmly around upper arm at heart level; align cuff with brachial artery.
- The appropriate cuff size must be used to ensure accurate measurement. The bladder within the cuff should encircle at least two-thirds of the upper arm. Many adults require a large adult cuff.

- Place stethoscope bell below the antecubital space over the brachial artery.
- Quickly inflate cuff pressure to 20 mm Hg above estimated systolic BP.
- Slowly release pressure at rate equal to 2 to 3 mm Hg/s, noting first Korotkoff sound.
- Continue releasing pressure, noting when sound becomes muffled (4th phase diastolic BP) and when sound disappears (5th phase diastolic BP). For classification purposes, the latter is used.

During exercise, blood pressure should be measured with the client's arm relaxed and not grasping a handrail (treadmill) or handlebar (cycle ergometer). Blood pressure measurements should be taken with a mercury sphygmomanometer adjusted to eye level or a recently calibrated aneroid manometer.