WHEN MEASURING EXERCISE BP, TAKE EXTRA PRECAUTIONS TO ENSURE ACCURATE READINGS

- Instruct the client to refrain from grasping the handlebars or handrails of the exercise apparatus during the BP measurement.
- Limit arm movement during the BP measurement; stabilize the client's arm during the measurement by placing and holding it firmly between your arm and trunk.
- Inflate the cuff well above the anticipated value or reading obtained during the previous stage of the graded exercise test, keeping in mind that systolic blood pressure increases with exercise intensity.

Palpation
When using the palpation technique for determining heart rate, palpate the pulse at one of the following sites:

- brachial artery—on the anteromedial aspect of the arm below the belly of the biceps brachii, approximately 2 to 3 cm (1 inch) above the antecubital fossa
- carotid artery—in the neck just lateral to the larynx
- radial artery—on the anterolateral aspect of the wrist directly in line with the base of the thumb
- temporal artery—along the hairline of the head at the temple

Heart Rate Monitors and ECG Recordings
Heart rate also can be measured using heart rate monitors or an ECG monitoring system. Generally, heart rate monitors are designed to detect either the pulse or the ECG electrical signal from the heart and provide a digital display of the heart rate. Pulse monitors use infrared sensors attached to the client's fingertip or earlobe to detect pulsations in blood flow during the cardiac cycle. Chest strap, wire, and wireless ECG-type monitors tend to be more accurate and reliable than pulse monitors, especially during vigorous exercise. However, the accuracy of wireless chest strap monitors may be affected by electrical equipment (such as some treadmills, stairclimbers, rowing machines, and video screens) generating radio or magnetic interference.

resting heart rate carefully, because it is sometimes used in the calculation of target exercise heart rates for submaximal exercise tests as well as for exercise prescriptions. You can measure heart rate using auscultation, palpation, heart rate monitors, or ECG recordings.

Auscultation
When measuring resting heart rate by auscultation, place the bell of the stethoscope over the third intercostal space to the left of the sternum. Count the sounds from the heart for 30 or 60 seconds. The 30-second count is multiplied by 2 to convert it to beats per minute (bpm).

FOLLOW THESE PROCEDURES WHEN DETERMINING HEART RATE BY PALPATION

- Use the tip of the middle and index fingers. Do not use your thumb because it has a pulse of its own and may produce an inaccurate count.
- When palpating the carotid site, do not apply heavy pressure to the area. Baroreceptors in the carotid arteries detect this pressure and cause a reflex slowing of the heart rate.
- If you start the stopwatch simultaneously with the pulse beat, count the first beat as zero. If the stopwatch is running, count the first beat as one. Continue counting for either a designated period of time (6, 10, 15, 30, or 60 seconds) or for a designated number of beats. When the heart rate is counted for less than 1 minute, use the following multipliers to convert the count to beats per minute (bpm): 6-second count times 10, 10-second count times 6, 15-second count times 4, and 30-second count times 2. Typically, shorter time intervals (i.e., 6- or 10-second counts) are used to measure exercise and post-exercise heart rates during and immediately following exercise. Because there is a rapid and immediate decline in heart rate when a person stops exercising, the 6- or 10-second count will more accurately reflect the individual's actual exercise heart rate.