

STANDARDIZED DESCRIPTION OF CIRCUMFERENTIAL SITES

- Abdomen: You should be relaxed, a horizontal measure taken at the level of the umbilicus.
- Calf: Standing erect, a horizontal measure taken at a level of the maximum circumference between the knee and the ankle.
- Forearm: Standing erect with arms hanging downward but slightly away from the trunk and palms facing forward, measure is taken perpendicular to the long axis of the forearm at the level of its maximum circumference.
- Hips/Buttocks: Standing erect naturally, a horizontal measure is taken at the maximum circumference of the hips/buttocks region. (The individual should be wearing a thin swimsuit or briefs.)
- Arm: With your arm to the side of the body, a horizontal measure is taken midway between the shoulder and elbow.
- Waist: With your abdomen relaxed, a horizontal measure is taken at the level of the narrowest part of the torso.
- Hips/Thighs: With your feet together, a horizontal measure is taken at the maximum circumference of the hips/thighs, just below the gluteal fold.

Procedures:

- Measurements should be taken on the right side of the body using a tension regulated tape measure.
- Place tape perpendicular to the long axis of the body part.
- Pull tape to proper tension without pinching skin.
- Measure both right and left sides.

3-MINUTE STEP TEST (Use as a warm-up for the other tests)

Purpose: To determine cardiovascular condition by measuring recovery heart rate.

Face a 12" high bench and step one foot up on the bench, step up with the second foot, step down with the first foot, and step down with the other foot (it should take approximately 2 seconds to complete the whole cycle). This will be done for 3 minutes. The sequence is alternating feet. It does not matter which foot leads or if the lead foot changes during the test. Do not practice, as it will affect the heart rate.

It is important to sit down quickly at the end of 3 minutes and remaining still for 1 minute so that you can count the heart rate. When you are ready to begin, start the timer. Check the rhythm and correct if necessary

At the end of 3 minutes, immediately sit down and find your pulse. Get the rhythm, and start counting for 1 full minute. Begin the count on a beat, counting the beat as "zero". The recovery rate count must be started within 5 seconds or the heart rate will be significantly different. (Note: Pay close attention to the heart's rhythm, which can change suddenly during recovery. It is easy to lose count.) The 1-minute count reflects the heart's rate at the end of stepping as well as the rate of recovery.

The total 1-minute post exercise heart rate is the score for the test and can be recorded and compared to the norms in the scoring sheets or to previous test results if appropriate. Score the total 1-minute postexercise heart rate in beats per minute.

PUSH-UP TEST PROTOCOL

Purpose: To measure the muscular endurance of the upper body.

- Procedures:*
1. The push-up test is administered with male subjects in the standard “up” position (hands shoulder width apart, back straight, head up) and female subjects in the modified “knee” position (ankles crossed, knees bent at 90° angle, back straight, hands shoulder width apart, head up).
 2. You must lower the body to the floor until the shoulders are even with the elbows.
 3. For both men and women, the subjects back and hips must be straight at all times and the subject must push up to a straight arm position.
 4. The maximal number of push-ups performed consecutively without rest is counted as the score.

BENT-KNEE CURL-UP TEST

Purpose: to test abdominal strength and endurance by determining how many curl-ups can be completed at a set cadence without time constraints.

Procedure:

Assume a lying position with feet flat on the floor and knees bent at about 90 degrees. Place your hands palms-down at your sides. Place a tape measure at the end of your fingertips, running lengthwise as a continuation of your arm. Slowly flatten your lower back and curl your upper spine until the fingertips touch the 8 cm mark on the tape measure. Return to the original position with the back of shoulder blades touching the floor. One curl up is counted each time your shoulder blades touches the floor. Perform the curl-up at a rate of one every 3 seconds or 20 curl-ups per minute. There should be no rest at the bottom position. Perform as many curl-ups as possible without stopping, up to a maximum of 75. The test is terminated if the cadence is broken. (Caution: Breathe easily during the exercise so as not to invoke the Valsalva maneuver.)

SIT & REACH TEST PROTOCOL

Purpose: To measure trunk forward flexion and determine hip, low back, and hamstring range of motion.

- Procedures.-*
1. Perform the other fitness tests first as a short warm-up before this test. It also recommended that you refrain from fast, jerky movements which may increase the possibility of an injury. Shoes should be removed.
 2. A yardstick or tape measure is placed on the floor and tape placed across it at right angles to the 26 cm mark. Sit with the yardstick or tape measure between the legs with legs extended at right angles to the taped line on the floor. Heels of the feet should touch near the edge of the taped line and be about 10 to 12 inches apart.
 3. You should slowly reach forward with both hands as far as possible on the yardstick or tape measure, holding this position momentarily. Be sure that you keep the hands parallel and do not stretch or lead with one hand. Fingertips can be overlapped and should be in contact with the yardstick or tape measure.
 4. The score is the most distant point (in centimeters) reached on the yardstick or tape with the fingertips. The best of three trials should be recorded. To assist with the best attempt, exhale and drop your head between the arms when reaching. The knees should be kept straight.

CAUTION: You should not invoke the valsalva maneuver and should breathe easily during the exercise.