

STEP TEST PROCEDURES

Supplies

- Metronome
- 12-inch-high Aerobics-type Step with Risers
- Watch or Clock that counts seconds

Definition

The Step Test is designed to measure a person's aerobic fitness. Participants step up and down, on and off an aerobics-type step for **THREE** minutes to increase heart rate and to evaluate the heart's recovery rate during the minute immediately following the step test exercise.

Purpose

Inactivity is one of the major risk factors for Coronary Artery Disease (CAD). In fact, numerous studies have shown that it may be the most important factor responsible for CAD. Consequently, exercise reduces the risk of dying from a heart attack. Other benefits of exercise include improving circulation, lowering high blood pressure and triglycerides, increasing good cholesterol, and helping control weight.

Measurement

CONTRAINDICATIONS FOR TESTING AND GUIDELINES FOR STOPPING THE STEP TEST

- High blood pressure: systolic pressure > 160 mm Hg OR diastolic pressure > 100 mm Hg
 - Onset of angina or angina-like symptoms
 - Signs of poor perfusion: lightheadedness, confusion, ataxia, pallor, cyanosis, nausea, cold clammy skin
 - Participant requests to stop
 - Physical or verbal manifestations of severe fatigue
1. Make sure the participant has signed the Fitness Testing Consent and Release.
 2. Follow the "Contraindications for Testing and Guidelines for Stopping the Step Test" listed above.
 3. Explain to the participant the importance of sitting down quickly at the end of the test and remaining still and quiet for one minute so an accurate heart rate can be measured from her wrist.
 4. Instruct the participant on stepping to the beat of the metronome using the same lead leg in an UP, UP, DOWN, DOWN rhythm during each 4-step cycle.
 5. Set the metronome for 24 beats (96 steps) per minute.
 6. Position the participant facing the step and allow her to pick up the beat of the metronome by marching in place. Start the timer when she begins stepping UP, UP, DOWN, DOWN. Check to make sure she is accurately maintaining the rhythm of the metronome and correct if necessary (i.e., "speed up," "slow down," "listen to the beat," etc.).
 7. Inform the participant of the time as it passes (i.e., "two minutes," "one minute," "30 seconds left," etc.). With 30 seconds remaining, remind her to sit down quickly at the end of the test and wait for you to take her heart rate.
 8. When the participant sits down, immediately place your fingers (not the thumb) firmly on the radial artery, get the rhythm and start counting 5 seconds after the test was completed. Measure the number of beats for one full minute. The one-minute count reflects the heart's recovery rate.

Interpreting Results

Fit Score	Age 18-25		Age 26-35		Age 36-45	
	Men	Women	Men	Women	Men	Women
Excellent	≤ 82	≤ 88	≤ 83	≤ 91	≤ 86	≤ 93
Above Average	83-94	89-103	84-94	92-106	87-100	94-106
Average	95-104	104-116	95-106	107-118	101-111	107-117
Below Average	105-118	117-128	107-119	119-129	112-120	118-130
Poor	≥ 119	≥ 129	≥ 120	≥ 130	≥ 121	≥ 131
Fit Score	Age 46-55		Age 56-65		Age 65	
	Men	Women	Men	Women	Men	Women
Excellent	≤ 89	≤ 96	≤ 89	≤ 97	≤ 89	≤ 93
Above Average	90-101	97-111	90-100	98-109	90-100	94-108
Average	102-115	112-120	101-111	110-117	101-113	109-121
Below Average	116-124	121-127	112-122	118-129	114-122	122-129
Poor	≥ 125	≥ 128	≥ 123	≥ 130	≥ 123	≥ 130