

The Harvard Step Test

The Harvard Step Test is used to measure a clients aerobic fitness. Specifically it is a 'predictive test of their VO2max. This page shows you how to conduct the test.
The test was developed at Harvard University in 1943.

Purpose: The purpose of this test is to predict a clients aerobic fitness using a simple test with minimal equipment.

Equipment required: step or platform 50.8 cm high, stopwatch, metronome or cadence tape.

Description / procedure: The client steps up onto, and back down from the step at a rate of 30 completed steps per minute (one second up, one second down) for 5 minutes or until exhaustion. Exhaustion is defined as when the client cannot maintain the stepping rate for 15 continuous seconds. The client immediately sits down on completion of the test, and the total number of their heart beats are counted from 1 to 1½ minutes after finishing and from 2 to 2½ minutes after finishing and finally from 3 to 3½ minutes after finishing. The clients heart beats are counted through feeling the clients pulse at their wrist.

Scoring: the clients fitness index score is then determined by the following equations.

Fitness Index = (100 x test duration in seconds) divided by (2 x sum of heart beats in the recovery periods)

For example, if the total test time was 300 seconds (if the client completed the whole 5 minutes), and their number of heart beats between 1-1½ minutes was 90, between 2-2½ it was 80 and between 3-3½ it was 70, then the fitness index score would be: $(100 \times 300) / (240 \times 2) = 62.5$. Note: you are using the total number of heart beats in the 30 second period, not the clients heart rate (beats per minute) during that time.

Rating	Fitness Index
Excellent	>90
Good	80-89
High average	65-79
Low average	55-64
Poor	<55